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THE WIGHTMAN LECTURE.\*

HEREDITARY BIAS AND EARLY ENVIRONMENT IN  
THEIR RELATION TO THE DISEASES AND DEFECTS  
OF CHILDREN.

By R. CLEMENT LUCAS, B.S., F.R.C.S.,

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for Children.*

It has been said that Galileo lived before his time: it would be more true to say that young Wightman lived before his time. Had he not suffered from diphtheria ten years before the introduction of antitoxin he would very probably be with us to-day. He was a good example of how the individual is built out of hereditary forces. Mentally he resembled his parents closely in being unselfish and generous. He was also a good example of how sometimes the strength of a family may be centred in one sex. He was the only boy and died at the age of seven. His sister is healthy and strong. Cobden similarly only had one boy, who died at the age of fifteen; he

\* Delivered before the Society for the Study of Disease in Children, July the 15th, 1904.

had five daughters, all of whom are still alive and well. It has been said that an excess of girls leads to extinction of families. Galton gives thirteen instances in which the marriage of a peer with an American heiress led to the birth of girls, but of no son. In this way the custom of going to America for healthy wives to revive our effete aristocracy only leads to the wiping out of the latter. Again, longevity is certainly hereditary. Recent statistics show that short-lived families tend toward rapid extinction. On the other hand, modern views of disease tend to discredit the importance formerly attached to heredity. It is instructive to compare the opinions of, say, fifty years ago with those of to-day on this subject. In 1840 pityriasis versicolor, or chloasma, of the chest was thought to be hereditary, whereas we have long known it to be an infective disease. Sir Thomas Watson thought that consumption was entirely a question of diathesis, and scoffed at the notion of its being contagious. Even a wife whose family had been free from consumption for generations, who contracted phthisis after nursing a husband dying of the disease, only proved to Watson how long may be the latent period in the generation before the taint declares itself. Some years ago at the Evelina Hospital I investigated the family history of a number of cases of infantile tuberculosis, every variety being included. In every case one or other parent had phthisis. Are, then, the old observations relating to the tuberculous types of patients quite valueless? I think that the pearly sclerotics, the sharp refined features that may be seen in any wasting disease, may be produced by the tuberculous process. This may be transmitted to the offspring, so that in a few generations who had suffered from the disease we would have the type occurring in a healthy individual, and merely indicating a diminution of resisting power, perhaps to all disease. Baumgarten accounts for the occurrence of infantile tuberculosis by assuming that the bacillus penetrates the sperm-cell or ovum and remains latent for some years. He quotes the analogous instance of pébrine, in which Pasteur worked out the mode of infection. Experiments done on hens' eggs support this contention. On the other hand, the bacillus has never been seen in the germ-cell. It will be seen that this hypothesis is not so hopeful as the one which attributes the condition to contagion, and so we must ask for further evidence before accepting it.

The case of leprosy is not dissimilar. This disease has been treated by segregation from time immemorial, though from some of the curses invoked on generation after generation, it may be surmised



that the biblical authors considered it to be hereditary. The Indian Commission failed to find any evidence of this. Hansen found leprosy in the descendants of natives who had emigrated to America. The manner of spread of the disease is still unknown, but I am hopeful that it will soon be worked out, because it took fifteen years to work out the mode of spread of malaria after its organism had been isolated. All we can at present say is that some families seem to show less resistance to the disease than others.

In 1844 malaria was described by a lecturer at the Royal College of Physicians as a climatic diathesis. We now know that it is due to an organism, and there can be no reasonable doubt that it is conveyed by means of mosquitoes. Our belief in the influence of heredity in disease has been rudely shaken by such instances as these.

In the case of syphilis it is doubtful whether the disease can be transmitted beyond the first generation. Incidentally I may express my opinion that "transmitted syphilis" is a better term than "hereditary syphilis." Hutchinson claims that the germ-cell of either parent may convey the infection. Be that as it may, we know that the disease is doubly disastrous when inherited from both parents. In one instance of this I met with there were eight children born dead. I remember a blind boy and girl marrying, both being congenital syphilitics, and their offspring was free of the taint. Hutchinson reports eight other such instances, in none of which was there evidence of syphilis in the children. The later children of syphilitic parents are more robust than the earlier ones. It seems as if a new type of the disease was produced by intermarriage, and that leads to physical deterioration.

The question of rickets is a more complicated one. This can be artificially produced in animals, a fact which has been taken advantage of to form new breeds of dogs, *e. g.* the Dachshund and field spaniel. In 1881 I suggested that cases of microcephaly should be so treated as to develop rickets, with the idea of enlarging the head so that the brain should have room to grow. It seems certain that rickety children are often cleverer than other children, a fact which is difficult of explanation. It may be that rickets will be shown to be of microbic origin, and then the question of heredity will have been disposed of. I consider rickets and syphilis the two great causes of deterioration in London.

The rheumatic and gouty diatheses act differently. Rheumatism is now leaving the group of hereditary disease, owing to its connection with a definite micro-organism. I believe that the chapter of medicine on joint disease will have to be re-written owing to the

discovery of the importance of the infective factor. I would remind the Society that gonorrhœal pyæmia is not unknown in children. Gout may be regarded as the antithesis of rickets, the one being produced by over-feeding and the other by under-feeding, the one being therefore a disease of the rich and the other of the poor. Three fourths of the families of the leisured classes are said to be afflicted with gout. The rubicund John Bull of 'Punch's' pages is a typical example of a gouty person. Gout is the sole surviving example of the chemical theory of disease, but it is possible that time will show that even this is an infective disease, and therefore not an hereditary one.

To take next the subject of cancer, Paget long ago showed that 5 to 6 per cent. of cancer cases gave a history of cancer in their families. It is known that cancer attacks unrelated persons who are under the same conditions; for instance, some years ago I recorded the occurrence of three cases of cancer which occurred in the same house. These are distinct grounds for doubting the belief in the hereditary transmission of cancer.

In the nervous system we have the clearest evidence of the influence of heredity in disease. Fletcher Beach says that of idiots 51 per cent. have a history of mental defects in the family, 20 per cent. of epilepsy, and 16 per cent. of alcoholism. Taking the problem from the other side, Langdon Down asserts that 3 per cent. of lawyers' children are mentally defective, 4 per cent. of doctors', and 18 per cent. of clergymen's. Galton states that of the members of all the learned societies of London, 11 per cent. are the children of lawyers, 9 per cent. of medical men, and 6 per cent. of clergymen. A pleasanter aspect of the subject is that dealing with genius. Galton has clearly shown that great ability is the rule in the children of geniuses. There is an interesting connection between genius and stature. 142 cases were over 5 feet 9 inches, 125 were below 5 feet 4 inches, whilst only 74 were between these heights, *i. e.* were of the average height in this country. Another instance of heredity, besides that of genius, is afforded by Gerrish's observations on five generations in which paresis of the anterior tibial muscle appeared between the ages of twenty-two and twenty-six. Karl Pearson has shown that intelligence is bred, and not created by education; so that mental characteristics as well as physical are hereditary. He has formulated a law concerning the probable deviation of brothers from the normal.

Deaf mutism is probably hereditary. In some cantons of Switzerland this occurs in 1 in every 206 of the population. The law governing the transmission of hæmophilia is well known, but it is



not so well known that colour blindness and polydipsia obey the same law, *i. e.* they are strictly limited to the males, though transmitted only by the females. Coloboma and certain other ophthalmic defects are also transmissible.

Coming to external manifestations, we have a large number that are hereditary. Ichthyosis was shown 18 times in the family in some cases shown at London in 1731. Some members of the family were about London in 1820. Psoriasis is similarly transmissible, and this may the next generation be converted into ichthyosis.

Supernumerary toes and webbed fingers are hereditary. For five generations one family has shown instances of both. Darwin mentions three cases in which these digits recurred after amputation, and explained this by a retrogression to the habits of lowly ancestors, in which, *e. g.* the crayfish, this is a frequent phenomenon. Similar cases have been reported later. These malformations tend to die out with the infusion of fresh blood by marriage. Absence of the patella has been transmitted for three generations, as has absence of the second incisor tooth. Many years ago I pointed out that the absence of these teeth often preceded the appearance of a cleft palate in the offspring. I now wish to record two cases in which feeble development of these teeth in the mother foreshadowed the appearance of a cleft palate in the child.

An interesting chapter in the book of malformations is that dealing with what are known as intra-uterine amputations. A good example of this phenomenon was shown at the Bristol meeting of this Society; in this instance both lower limbs and one upper were missing. The usual theory on the subject is that these limbs are amputated by the umbilical cord, and this theory was thought to be supported by a case in which a deep groove was found to have been formed around the abdomen. Careful inquiry, however, elicited the fact that the groove was not at the level of the umbilicus, but below it. Another objection to the theory is the doubt as to whether strain sufficient to amputate a limb would not have so impeded the circulation in the cord as to cause death. Again, why should the cord cut off limbs, but never the head, seeing that the cord is so often wrapped round the neck at birth? A further point that has struck me is the fact that these deformities are usually multiple, which is difficult to understand, as the cord would have been relaxed once the limb had been amputated. It is hard to believe also that such an agent would pick out the three central fingers and leave the thumb and little finger or *vice versâ*. Amniotic adhesions have lately been

suggested as an explanation, but I think that the phenomena are much more probably a manifestation of errors of development. To me they suggest a defect very far back in the growth of the child, and especially a general cause acting widely, not a local cause. Possibly incompatibility of the sperm-cell and ovum may explain the question. There seems to be a general failure of control in the process of development, for we see the combination of overgrowths, *e. g.* supernumerary digits with defects in growth. Perhaps defective food in the organism may act as a factor, for we know how important such an agent is. An instance is the production of Shetland ponies, through generations of bad feeding, which cannot be converted into racehorses, however well fed. There is still room for more work to be done at such interesting and important questions. In conclusion I beg to again thank the Society for the honour they have done me in asking me to deliver this, the first Wightman lecture.

#### A CASE OF BILATERAL SEPARATION OF THE LOWER EPIPHYSIS OF THE RADIUS.\*

By J. W. THOMSON WALKER, M.B., F.R.C.S.,

*Assistant Surgeon to the North-West London Hospital, and to St. Peter's Hospital for Stone.*

THE introduction of the X rays has added very materially to the accuracy of diagnosis in bone injuries, but it is probably in the examination of epiphyseal lesions that this means of diagnosis has proved of greatest value.

The following case is of sufficient interest to merit record, the more so that there are few skiagraphic records of such cases. William J. W—, aged 15 years, fell from the back of a railway van on to the street, alighting on his outstretched hands.

He was conveyed to the North-West London Hospital, and there examined by the House Surgeon, Mr. E. A. Wright, who found both hands apparently dislocated backwards. Some amount of swelling had already taken place when he was examined. The carpus appeared to be dislocated on to the back of the radius, the lower end of the latter projecting on the front of the wrist. The condition was similar on both sides. Reduction was easily effected and was

\* Shown at a meeting of The Society for the Study of Disease in Children, Friday, May the 27th, 1904.



accompanied by indistinct crepitus. Anterior splints were applied. On removing the splints three weeks after the injury, Mr. Wright was dissatisfied with the appearance of the wrists and referred the case to me. The following condition presented itself on examination. The hands viewed laterally showed the "silver fork deformity," but to a less degree than in Colles' fracture. There was radial inclination of both hands, which was more pronounced on the right side. The head of the ulna was prominent on both sides. A finger-breadth above the wrist line bounding the thenar eminence there was a prominent transverse ridge in the line of the radius which could be distinguished as a sharp edge covered by the wrist tendons, and was best felt by pressing the finger from below upwards along the front of the wrist. On the dorsum the carpus was prominent and was found to be bounded by an abrupt depression over the back of the radius. The position of the styloid process of the radius appeared to bear its normal antero-posterior relation to that of the ulna, but as both wrists were injured there was no standard for comparison. On measurement the tips of the radial and ulnar styloid processes were equidistant from the humeral condyles on the left side, and the right radial styloid process was a quarter of an inch higher than the ulnar styloid process. There was thus shortening of the radius on both sides, that on the right side being most marked. A skiagram taken from the inner side of each wrist showed that the epiphysis of the radius was separated and displaced backwards so that the anterior edge of the cartilaginous plate rested upon the middle of the lower end of the shaft of the bone and the posterior half of the epiphysis projected backwards beyond the shaft. A ledge of bone had been broken from the posterior edge of the lower end of the shaft and displaced backwards with the epiphysis. The lower epiphysis of the ulnar was uninjured on either side.

Under an anæsthetic the epiphyses were found to be so firmly united to the shaft in their abnormal position that it was impossible to dislodge them.

Seven weeks after the accident the inflammatory swelling around the wrists had disappeared and the deformity was less noticeable. The abduction of the hand was still more marked on the right side and the measurements were unchanged. The ridges formed by the lower end of the shaft of the radius on the anterior aspect of the forearm and that formed by the epiphysis on the dorsum were less sharp and prominent. The movements of the wrist joints were perfect and could be carried out without difficulty or pain. In this

FIG. 1.

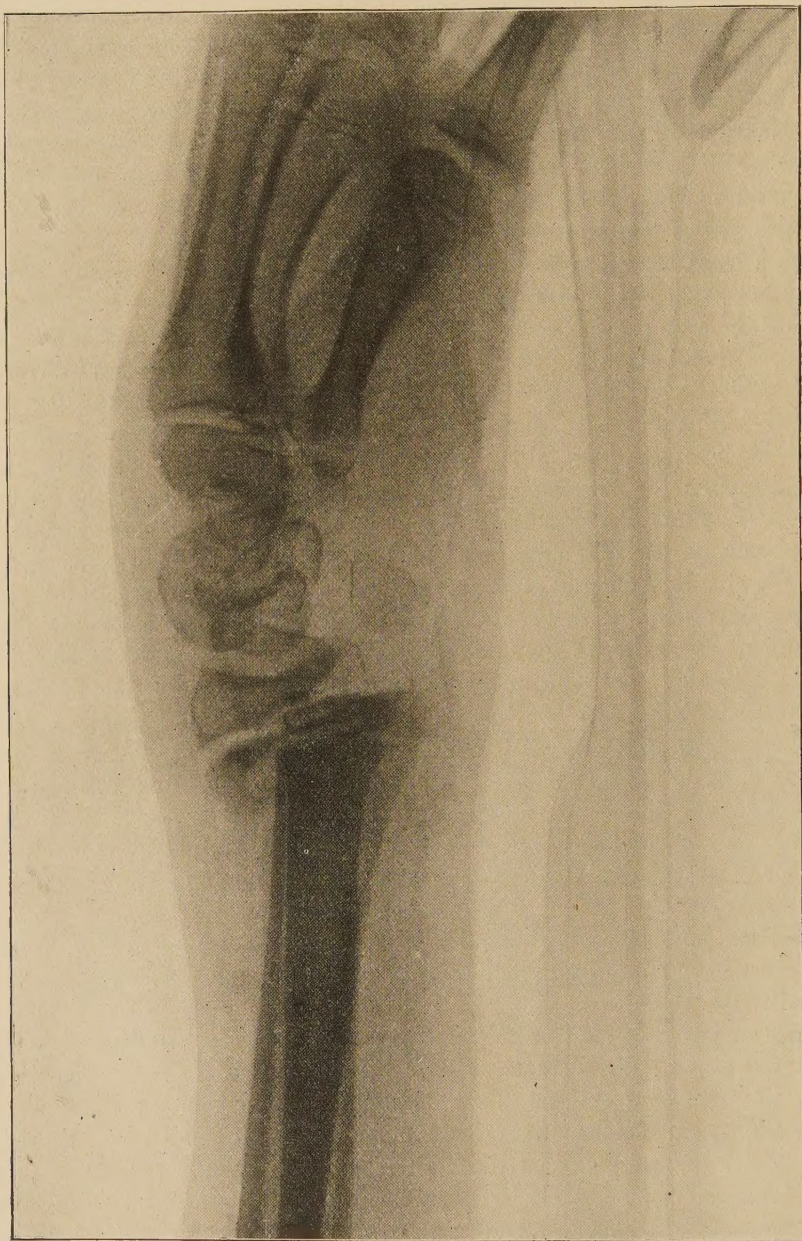
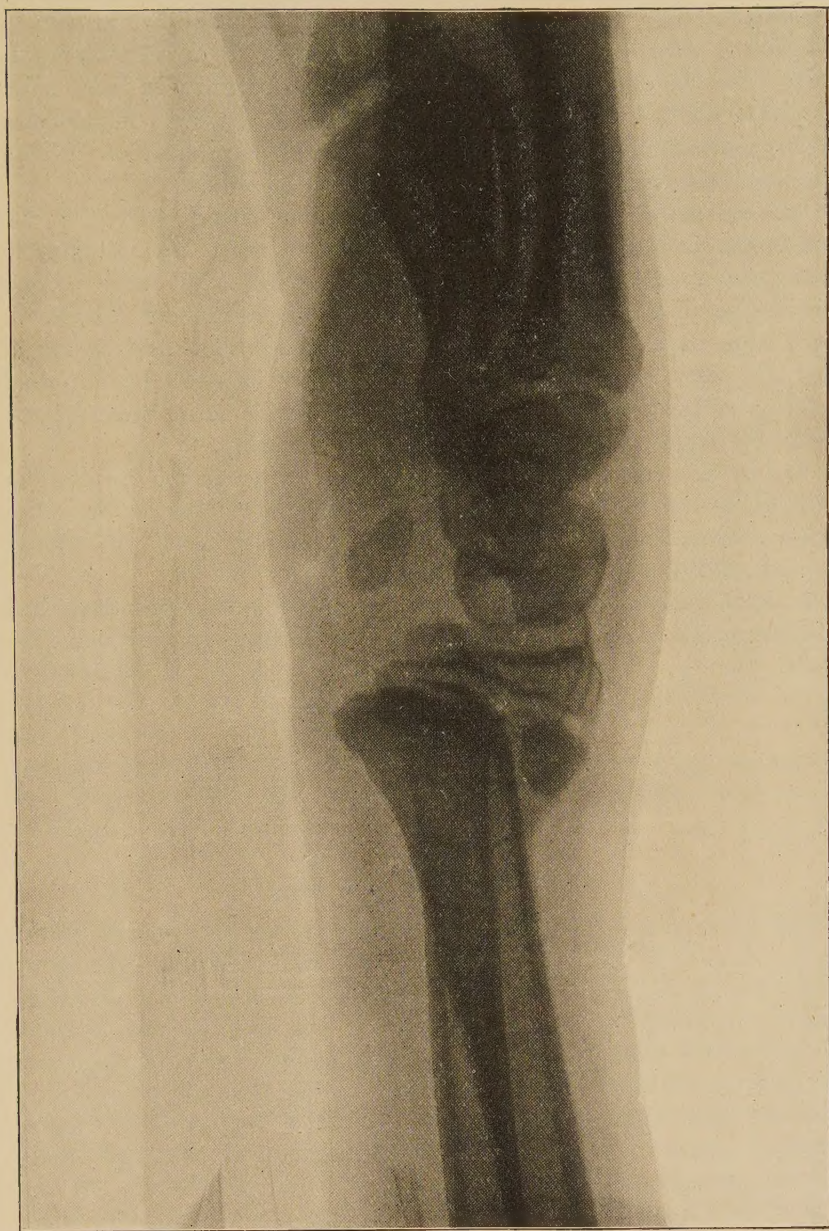




FIG. 2.



case there had apparently been a complete backward displacement of the lower radial epiphyses at the time of the accident, and this having been reduced, the partial displacement, seen in the skiagram, remained. The rapid firm union of the cartilaginous disc in its new position is what usually occurs in such cases. It is satisfactory to learn from the experience of others that the deformity in these cases may be expected to disappear completely and leave no impairment of the movements of the wrist. This certainly appears to be taking place in this case even after the lapse of seven weeks.

The serious question of the arrest of growth of the shaft of the bone with consequent distortion of the limb must always arise in these cases. So far as I can ascertain there is no very precise knowledge of the factors which govern the arrest of growth in separation of the epiphyses. Severe comminution, destruction of the soft parts, and suppuration are naturally followed by impaired activity of the injured epiphysis, but in simple detachment of the radial epiphysis the after result varies considerably.

The radius has been stunted in growth after simple separation with little or no displacement, and in other cases, where the epiphysis has been completely displaced, the injury has not interfered with the full development of the bone.

It is, therefore, impossible to say in a case like that just described whether arrest of growth with its serious deformity may not take place.

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#### A CASE OF VALVE OBSTRUCTION IN THE URETHRA, WITH SECONDARY CHANGES IN THE URINARY ORGANS, IN AN INFANT.

BY CHARLES A. MORTON, F.R.C.S.,

*Professor of Surgery in University College, Bristol; Senior Surgeon to the General Hospital and the Hospital for Children and Women.*

ALTHOUGH there are many specimens in museums of conditions somewhat resembling the one present in this case, clinical records of such cases seem to be rare. There is also one very important fact illustrated by this case, *i. e.* that the obstruction being valvular, with the valve sloping towards the bladder, a very serious obstacle may be present to the passage of urine, and yet a catheter may enter the bladder without the slightest difficulty.

A baby aged 13 months was sent to me at the Children's Hospital with a history of three months' wasting and vomiting, and



a distended abdomen. This distension was mainly due to flatulent distension with hard scybalous masses, but a central hypogastric swelling suggesting a distended bladder was also present. The infant passed urine in apparently natural quantity, however, and I did not pass a catheter for a day or two after admission. When I did so I used a Jacques No. 3, and this entered the bladder quite easily, and withdrew several ounces of urine, and caused the hypogastric swelling to disappear. Blood and pus were noticed in the urine during the next twenty-four hours, and the temperature rose considerably. The temperature had been  $101^{\circ}$  and  $102^{\circ}$  after admission before the catheter was passed, and probably pus had also been present in the urine at that time, though I have no note of it. A large fæcal mass had to be cleared out of the rectum, and also scybala higher in the bowel were removed with enemata. The infant died a week after admission. The catheter passed was boiled, and every precaution taken to prevent infection by its means, and I think there is no doubt that cystitis and pyelitis were present at the time it was passed.

At the post mortem a dilated and greatly hypertrophied bladder was found; the ureters were so dilated as to resemble small intestine; and both kidneys were much enlarged from hydronephrosis, but a considerable amount of renal tissue remained. The mucous membrane of the bladder was plum coloured from hæmorrhage, and had exudation of lymph on it: hæmorrhages were also present in the mucous membrane of the pelvis of each kidney, which contained purulent urine. A small valve-fold was found in the roof of the urethra just beyond the vesical orifice, directed downwards and backwards, so that although the passage of urine would be much interfered with, a catheter would not be obstructed.

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## THE TREATMENT OF ANÆMIA IN CHILDREN BY IRON-VITELLIN.

By GEORGE CARPENTER, M.D.(Lond.).

A MUCH discussed question, and one of practical importance to the clinician, is the comparative values of organic and inorganic iron as reconstructives of hæmoglobin and red blood-cells in conditions associated with anæmia in children. Present-day physicians rely almost entirely upon inorganic iron as represented by Blaud's

preparation, citrate of steel wine, or reduced iron; but those who have studied the question from an experimental standpoint—physiological chemists and pharmacologists—assert that all of the arguments are in favour of organic iron. This difference between the clinician's opinion and the chemist's opinion is due to the fact that what the former has experimented with clinically as organic iron is not regarded by chemists as true organic iron.

Viewed from the clinical standpoint, the principal disadvantage of inorganic iron is that it is decomposed by the hydrochloric acid of the gastric juice into iron chloride, which is astringent to the gastric mucous membrane; this explains the digestive disturbances and constipation so frequently observed in patients taking iron. Organic iron, however, is not changed by hydrochloric acid, and has the additional advantages of being more easily and completely assimilated, and is in the chemical form required by the tissues. Types of true organic iron are hæmoglobin and hæmatin, and for a time these were administered in anæmia, but without benefit; this was explained by the elaborate investigations of Professor Cloetta, of Zurich, who showed that hæmoglobin and hæmatin, given either as salts or in the form of blood, are not assimilated by the human organism. Grawitz has proved clinically that not only are these preparations made from animal blood of no value, but that they are dangerous because they lead to demonstrable degenerative changes in the red blood-cells of patients to whom they are administered.

The albuminoid compounds of iron—represented by the peptonates, albuminates, pepto-manganates, etc.—have been shown by clinical experience to be no better than the ordinary pharmacopœial forms of inorganic iron. Von Ziemssen first proved this by extensive comparative studies at his clinic; Professor Stockman, of Glasgow, not only corroborated this observation, but proved clinically that manganese was absolutely useless in the treatment of anæmia.

When one reviews the results of the authoritative experimental and clinical researches on the subject of iron medication, it is clearly apparent that the desiderata of a satisfactory iron compound for clinical use are these:

- 1st. It must be organic in form.
- 2nd. It must be unchangeable by hydrochloric acid of the gastric juice.
- 3rd. Its clinical effects (on proportion of hæmoglobin, red corpuscles, and on the subjective symptoms of anæmia) must be appreciable.

Within the past two years a number of well-known clinicians



have reported their experiences with iron-vitellin, a compound of iron in definite chemical combination which chemists regard as true organic iron. For some time past I have employed iron-vitellin in hospital and private practice, and I briefly record some clinical histories which seem to indicate that this remedy is destined to occupy a wide field of usefulness as a tonic for children. The one fact which struck me was the rapidity with which iron-vitellin produced beneficial changes in the familiar and common cases of secondary anæmias of childhood. In the cases herein mentioned the results noted were produced within a period of five weeks, which is a much shorter time than I have ever seen uniformly good results produced by iron or any of the usually employed tonic drugs in a similar class of cases.

The following cases from my note-books are cited merely to illustrate the rapidity of action of the drug, not only upon the blood constituents, but upon the subjective and objective symptoms.

CASE 1.—A female child of 12 years. Had recently recovered from an attack of rheumatic fever, which had left her decidedly anæmic. Blood examination revealed red corpuscles 2,250,000 per c.mm. and hæmoglobin 54 per cent. Iron-vitellin was ordered in three-drachm doses, to be given thrice daily. Her general condition under its administration rapidly improved, and the anæmia fast disappeared. Ten days after beginning treatment the blood count showed red corpuscles 4,100,000 and hæmoglobin 78 per cent. Two weeks later the red corpuscles were 4,700,000 per c.mm. and the hæmoglobin 93 per cent. The girl was of good colour, appetite and digestion were normal, and there were no subjective or objective symptoms of anæmia.

CASE 2.—W. C—, aged 1 year and 2 months. The chest is pinched in a little below the nipple level, but apart from this there is no evidence of rickets. There are no indications of syphilis. Spleen four fingers below the costal margin, and the accessible lymphatic glands a trifle enlarged. Complexion sallow. Blood count: hæmoglobin 50 per cent.; red corpuscles 4,100,000 per c.mm.=82 per cent.; colour index .6; white corpuscles 8,200 per c.mm.=ratio 1 to 500; no abnormal corpuscles seen in the films, nor myelocytes. Iron-vitellin, one drachm thrice daily, was ordered. Four weeks after treatment was instituted the hæmoglobin rose to 80 per cent. The skin and mucous membranes were normal, spleen scarcely palpable, and the general appearance of the child had undergone a most striking change for the better.

CASE 3.—Sydney B—, aged 1 year and 4 months. Is rickety, but this is not marked. Abdomen rather pot-bellied. Spleen two fingers and liver one finger below the costal margin. Accessible lymphatic glands a trifle enlarged. Pale. The gums round the lower central incisor teeth are reddened. Petechiæ all over. Hæmoglobin 50 per cent.; red corpuscles 3,114,500 per c.mm.=63 per cent.; colour index .8; white corpuscles 17,950 per c.mm.=ratio 1 to 175. Poikilocytes; granular degeneration of red corpuscles; nucleated red corpuscles. Polychromatophilia. This baby was given iron-vitellin, one drachm thrice daily, for four weeks, and under its use greatly improved in colour and appearance. Unfortunately blood counts could not be made.

CASE 4.—C. D—, a boy of 9 years. Recently recovered from a bad attack of diphtheria; with pale mucous membranes, a trace of albumen in the urine and some epithelial casts. Blood count: hæmoglobin 40 per cent.; red cells 2,250,000 per c.mm. Iron-vitellin was ordered, a tablespoonful thrice daily. A week later hæmoglobin 55 per cent.; red corpuscles 3,100,000 per c.mm. From this date the albumen disappeared and the urine was free from casts. Three weeks later the hæmoglobin was 95 per cent. and the red corpuscles 4,500,000 per c.mm.

CASE 5.—William T—, aged 1 year. Very rickety; craniotabes; "snuffles" ever since birth; very anæmic. A 7½ months child. Spleen normal. Treated by mercury. In spite of the use of this drug the spleen was found to be enlarged two fingers below the costal margin some six weeks later and Parrot's nodes were commencing to form. Hæmoglobin 50 per cent.; red corpuscles 4,100,000 per c.mm.=82 per cent.; colour index .6; white corpuscles 25,000 per c.mm.=ratio 1 to 164. Treated with iron-vitellin thrice daily. Two weeks later the hæmoglobin was increased to 83 per cent., and a marked improvement was noticed in his general appearance. He was a hospital out-patient and was subsequently lost sight of.

In the treatment of the above-mentioned cases no other tonic medication was employed, as I desired to observe the effects of iron-vitellin alone, unassisted by any of the usually employed tonic remedies. Of course, whenever possible, the good effects of proper food, fresh air, and other hygienic measures were taken advantage of; but it is only in private practice, and not among out-patients,



that such aids to treatment are available; the benefit, therefore, may, I believe, be correctly attributed to the drug itself.

In the treatment of secondary anæmia in children, one learns by experience not to lay too much stress upon the increase of the red blood-cells and hæmoglobin as an index of the extent of the improvement in the general condition. A child with a diminished amount of these blood constituents will often show marked increase of red corpuscles and hæmoglobin after the administration of the ordinary pharmacopœial forms of inorganic iron; the increase may reach a certain point, even close to the normal standards, and the patient still suffer from the symptoms of anæmia. This is, however, according to my observations, not the case when iron vitellin is the form of iron employed. In these latter cases the red cells and hæmoglobin increase very rapidly during the first few weeks of treatment, after which the effect of these constituents is less marked; but the one point which is quite striking is the pronounced general tonic and reconstructive action which the drug seems to exert and which seems to be independent of its action upon the blood constituents. My observations on the use of iron-vitellin as a tonic for children seem to justify the following conclusions: It produces prompt increase in the red corpuscles and hæmoglobin; it improves the appetite, and does not disturb digestion or produce constipation; it is acceptable to the palate, and has a general influence upon nutrition which I have never observed in the use of any other form of iron. One point which I have noted is that the tonic dose for children (one to two teaspoonfuls in wine-glass of water, as at present advised) is too small in many cases, and that the dose may be often increased advantageously to a half-ounce three times daily.

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### PHYSICAL EDUCATION.\*

By SIR GEORGE KEKEWICH, K.C.B., D.C.L.,

*Late Secretary of the Board of Education.*

I UNDERTOOK to address you to-day, in opening this section, on the subject of the physical education of our children. It is a wide one, and one that can hardly be dealt with satisfactorily in the limited time at my disposal, and I feel that I can only touch to-day the

\* An address delivered at the Folkestone Congress, Royal Institute of Public Health (Section for Child Study and School Hygiene).

fringe of the matter—for physical education is by no means synonymous with physical training or physical exercises, but comprises the whole of the physical “bringing up” of our children. It includes the conditions under which the children live, both at school and at home—it includes also prophylactic measures against physical injury and disease, and the treatment of physical defects.

Physical exercises are necessary, but are but a small part of the whole of physical education. They have not been recognised as a part of ordinary education until a comparatively recent period. Fifty years ago such exercises were almost wholly absent from our elementary schools; in the higher schools the usual form of physical training, if it existed at all, was military drill—taught by an old sergeant or corporal—together with single-stick, fencing, boxing, and so forth for boys; and dancing, backboard, and what was called “deportment” for girls. There was no system and no science.

Happily a great change has taken place in public opinion as to the value of physical training, thanks mainly to the action of the great School Boards, who, as you know, from the outset set themselves to the solution of educational problems, and to the working out of the educational salvation of the children, physical as well as moral and intellectual. Thanks mainly to their efforts, physical training has now been adopted as part of the ordinary school curriculum in public elementary schools for both sexes. The High schools have followed suit, and I suppose there are but few public or private schools in this country where *some* attention is not paid to the development of the physique of the scholars.

Various systems of physical training have been devised both for boys and girls, all aiming at the education, so to speak, of the whole organisation of the body, so that no part should profit at the expense of another. No doubt these systems pursue the right lines, and they have, I am glad to say, ousted the old military drill which so long was advocated, mainly, no doubt, on patriotic grounds, but which, both for children and adults, is unscientific and ineffective, and is now recognised as insufficient even in the Army itself.

It appears to me, however, that our knowledge is as yet too empirical to enable us to lay down one absolutely cut-and-dried system for schools, as the Board of Education has endeavoured to do. Room should yet be given for experiment, so long as it is of a character which is at any rate not hurtful to the children. And moreover the amount of physical training desirable varies in the case of particular children, and also varies according as games are



possible or not, and with the amount of time that can be devoted to them. Football, cricket, rowing, and other games, if they may not each of them separately develop every limb and muscle on a perfectly scientific and even scale, yet are unequalled in laying the foundation of the health, vigour, and stamina which form the steam to drive the engine of an energetic life.

A further objection to a uniform system is that all schools are not sufficiently staffed to render it possible. And others are the facts that the ordinary teachers are often not versed in gymnastics, and that the curriculum is often overburdened with literary subjects.

The effect of physical exercises and training varies greatly in different classes of schools. In rural schools such exercises and training are more generally successful than in urban; in High schools and in Industrial schools, more successful than in Elementary schools.

The reason is because there are conditions precedent to success, or rather because physical exercises are in fact only a part, and not the most important part, of physical education. Those are, a reasonable amount of nourishing food and a healthy home. No system of training will ever be fully effectual in schools attended by children from the slums, or by children of parents who are below the line of poverty and unable to provide them with sufficient food. The problem of the improvement of the physique of the people lies deeper than the school. Decent houses and healthy surroundings, fresh air, and sufficient food are indispensable, if the race is not to deteriorate. Not the most scientific system of physical exercises that can be invented will save us, unless the social conditions of the poor can be improved.

A mighty change has been wrought in society by scientific advance, and the progress of commercial and industrial development, which has caused the aggregation of the people into populous centres. And we are paying, not only with bodily deterioration, but with the annual sacrifice of thousands upon thousands of lives, for our ignorance of how to live in cities. Let the State take that in hand, keep the air pure and free from noxious gases, feed the little ones, sweep away the slums—those nests of vice, immorality, and drunkenness, in which it is mere crime to permit children, ay, or parents either, to exist—and then we can begin really to educate, and to expect stronger and healthier children to attend our schools—children who will benefit as they should benefit by physical instruction. At present the good done by the school is often cancelled by the evil, the corrupting influence, the misery, of the home. Let us

remember also that the hours of sleep, than which no period of a child's life is more crucial for good or evil, are often spent in an atmosphere which can only be described as poisonous.

No one can doubt the influence of the home upon physique who has seen the vast difference between the appearance of the children of an Industrial school and those of an ordinary Elementary school in one of the poorer districts of London. In the one the children are healthy, strong, and sturdy, in the other they are pale, weak, stunted. And yet both sets of children are drawn from the same class. The contrast is vivid. Such is the effect of living in pure air, and a proper supply of food.

I am of course far from saying that until the home surroundings of the child are changed it is of little value to make our schools sanitary or to endeavour to perfect our systems of physical training. On the contrary, the very absence of healthy conditions in the home causes it to be more essential that they should be provided in the school. And, if we cannot do what we would, yet whatever we can do in counteracting physical degradation is especially valuable in the case of children living in slum districts. For their school hours are the only part of their life that they pass under healthy conditions. Let them therefore be as healthy as possible.

There are two conditions which must be satisfied by every school-house, and without which the school held in it cannot be thoroughly efficient, however excellent the teaching and conduct of the school may be. One is that it should be sanitary, the other that it should be convenient for teaching purposes. Of these the first is by far the most important, as it affects the health and lives of the children. The State compels every child to attend school for some five hours on five days each week, and it is the bounden duty of the State, therefore, to see that no child is forced to spend that time under conditions inimical to his bodily well-being. Nevertheless there are still many school-houses in this country which are ill ventilated, ill lighted, ill drained, insanitary, and overcrowded. I have myself seen school buildings within this week which many years ago ought to have been cleared off the face of the earth. I have no hesitation in saying that I would rather see the children playing in the streets than being educated ("educated"!!) in such a place. In this respect the Board of Education has not done its duty in the past, and is not doing it in the present. It has not recognised that tenderness to the pockets of the owners of schools is often cruelty to the children.

I will give you an instance of what I mean. I remember that some years ago I discovered that in a great city there were a number



of schools which were held in basements of buildings, half or entirely underground. Some had to be lighted with gas during half the year, some during the whole year; ventilation was impossible. The light of day came only to those children who sat beneath a window, and there was little enough of it. I condemned these basement schools and ordered their closure. But no sooner had I done that than up came a deputation to the Education Department, formed of persons politically important, and denominationally influential, and in the result I was compelled to withdraw my condemnation, and to continue the recognition of many of the schools, though in some cases for reduced numbers of children. Yet all these basement schools, in my view then, and in my view now, failed to comply with the conditions of recognition laid down by the Education Department itself in its own code, which had been approved by Parliament.

The initiative as regards the condemnation of insanitary school buildings now lies rather with the County and Town Councils than with the Board of Education and its inspectors. The results, so far as I can judge, will be very unequal in different localities. Some County Councils have instituted a drastic survey of school buildings in order, as far as possible, to make them suitable and healthy. But I doubt whether these zealous authorities will get much support from the Board of Education, partly because the Board will not welcome the exposure of its slackness in the past and partly for other reasons. Other Councils have taken action in the same direction very weakly and hesitatingly, out of respect for the pockets of the school-owners and regard for the particular class of school which is likely to come most freely under review. Others have taken no steps at all, leaving the initiative now, as it has been hitherto, in the hands of the Board of Education, which, as I have said before, is not likely to take vigorous measures in opposition to the school managers. The county in which we are now sitting is by no means the most zealous in the performance of its duty to the health of the children. The opposition of school managers is in all cases likely to be as strong now as it always has been. I do not speak without book. In 1893 (I think it was) Mr. Arthur Acland, who was then Minister of Education, issued a circular as to school buildings, asking for very moderate improvements, which represented a minimum of necessary sanitation and efficiency. That circular was ridiculed and opposed in every conceivable way by the school managers, and by the so-called educational bodies which represented them. It was with them so largely a question of money, and so little a question of the children's health and physical well-being. So it will

be now. It is high time that the Board of Education woke up from its sleep, and insisted on equal healthy conditions of school life (subject, of course, to the unavoidable inequalities caused by locality) for every child in the kingdom. In the interests of the children no school building which is unfit for school purposes should be allowed to continue because it happens to belong to a particular class of owners. So long as such a policy continues those who sanction it are guilty of sinning against the children and the people. They are promoting weakness and disease and misery by their laxness, as surely as if they favoured such things openly.

The same excuse is often given for the maintenance of unhealthy obsolete schools as is given for the failure to improve the children's home surroundings, viz. that clearing away the schools or the slums would involve the expenditure of a large amount of money. That is of course true, but the money would be the best investment that the State ever made, though the interest upon it would not be paid in actual money of the realm. Our hospitals and infirmaries are crowded at present with cases which are due to neglect in childhood, our poor-rates are burdened with the maintenance of those weaklings who have gone down early in the battle of life. Those who belong to our industrial and commercial classes are often handicapped by lack of energy and stamina, and undue limitation of bodily power, and the productiveness of their labour and the prosperity of the State is limited in proportion.

The policy of the State towards physical education is well illustrated by the old proverb, "Save a penny and spend a pound." It is exceedingly penurious. For political purposes it is constantly ready to spend enormous sums, but not for education, though, happily, education does sometimes profit by political expenditure.

I will give you an instance of one small bit of expenditure which would be most advantageous now, and probably, in the long run, of almost incalculable advantage to education. There is nothing that the educational authorities of the State need so badly as a medical adviser. That appointment has been pressed upon them for years. But doubtless the salary is regarded as too great a burden—it might cost £1000 to £1500 a year. And there is yet another objection—that the advice of the medical officer would necessarily be in the direction of a greater expenditure in safeguarding the health of the children. *Inter alia*, eyesight and deafness of children, defective children, infectious diseases in schools, would come within his purview, and the proper mode of dealing with such matters would undoubtedly cause expenditure. But in the long run such an

appointment would pay the State well, in the increasing well-being of the community.

There is no doubt that such an officer could do much to stimulate the State to perform its duty to the children. That duty has been to a large extent neglected. Take the case of children who suffer from defective eyesight, a matter in which I personally took very great interest when Secretary of the Board of Education. So far as can be judged from investigations which have taken place at present—those made by Dr. Kerr, to whom we are greatly indebted, and other medical men—probably at least half of the children in urban schools, and nearly as many in rural schools, suffer from some kind of defective eyesight, due to deviation of the eye from its normal shape. Such defects not only, if not cared for, interfere with the efficient education of the child, but increase and probably often originate certain nervous maladies. But they are remedial defects as a rule, and it seems almost a crime that in this country, at present, there is no general system prescribed by the State for the inspection of the eyesight of children, and for safeguarding, as far as possible, what is perhaps the most priceless of bodily possessions. In this matter, as in some others, I should judge the foreigner to be in advance of us. We are struck, for instance, with the number of children in Germany who wear glasses, and we are apt to attribute this circumstance to the inferiority of the Germans to ourselves as regards eyesight. I do not know whether such is the fact or not, but at any rate the glasses are a proof that the eyesight of children in Germany is cared for more than it is in this country. We suffer here from a stupid disregard of the teachings of medical science, in consequence of which tens of thousands both of children and adults are subjected to a neglect which is both inhumane and wasteful. Some years ago a committee was appointed by the Education Department to deal with the subject. Its medical member was Dr. Brudenell Carter, and principally through his efforts much investigation took place, and an excellent ‘Report’ was produced. But it went the way of all reports. It was published, a circular or two were issued to managers of schools, and then it appears to have found rest in a pigeon-hole. At all events it has not led to any sound practical steps being taken by the State. In my opinion every child in every school should be periodically submitted to medical inspection by medical officers of local authorities, not, of course, as regards eyesight only—though that would be one of its chief objects—but as regards the whole of the bodily, and to a certain extent also the mental, characteristics of the individual child. Not until this is done can the parents be satisfied



that their children are being cared for in school, so as to make the most and the best of them, and to give them their full chances in the battle of life. And the reports of those medical officers should be brought before the Board of Education and its principal medical officer. The reports would be full of interest, and from the experience that had been gained the Board of Education and its medical officer might crystallise regulations for the guidance of school teachers and local medical officers.

It has been well said, that if he is a wise man who has profited by his own experience, he is a wiser man who has profited by the experience of others.

In many other directions the advice of a principal medical officer and the periodical inspection of schools by local medical officers would be extremely valuable. The inspection of the lighting, warming and ventilation of schools has hitherto been left entirely, or almost entirely, to H.M. Inspectors of Schools, most of whom are unacquainted with science, and who, with one or two exceptions, are not medical men. Surely it is somewhat absurd that in these respects and others the care of the health of the children is left almost wholly to those who have no professional knowledge of the proper conditions for maintaining health. No one doubts the zeal or the ability of H.M. Inspectors: it is not their fault that these things are so, it is the fault of the system. The services of medical officers would be especially useful in the case of the older schools. As regards the newer ones, most of the plans have been passed under review by an architect, who is probably the greatest expert living in the science of school planning; but many of the older schools were built at a time when the State was ready to accept for school purposes any ill-arranged, insanitary building if it would accommodate a certain number of scholars at eight square feet per child. In the erection of those, lighting, ventilation, warming, and sanitary arrangements were little cared for, and in bringing those schools up to modern requirements if possible, and in closing those which are hopelessly bad, medical science would be extremely useful. The lighting in many of the schools is badly placed, and is often either too much or too little. Too much or too little light is equally fatiguing to the eyes of the children and equally prejudicial to their eyesight. As regards ventilation, the purity of the air should be tested in order to see that the inlet of the fresh air and the outlet of the vitiated air are sufficient for the purpose, and effectively used. In too many cases, indeed, at present inlets and outlets are absent, and the ventilation is left to shift for itself, a window being opened

occasionally to reduce the impurity of the air. In connection with ventilation the structure of the schools is, of course, important. It is universally considered, I think, now, that open-roofed rooms are inferior to ceiled rooms. I remember when the Education Department recommended open roofs because they provided a large amount of cubic feet of air per child. But such open roofs unless really effectively ventilated simply provide bags of foul air, which every movement brings down in waves on the head of the teacher and the child.

The temperature of the air should also be periodically tested, and the vexed question of open fires *versus* hot air considered; especially in connection with ventilation.

Prevention of infectious diseases in schools, especially as regards the measures to be taken in regard to non-notifiable infectious complaints; and the closure of schools in consequence of epidemics, would also naturally come within the province of the medical officers; so also would the sanitation of the school offices, which is often in the case of the older schools hopelessly bad.

Finally, I repeat, that money spent in the sanitation of our schools and on the health of our children, is an investment and a most productive one.

The aftermath of our present neglect is the crowding of our hospitals and infirmaries, and the enormous consequent increase of expense to the nation, which, I believe, could be saved if we only adopted reasonable measures on the lines I have indicated. We are losers also in consequence of the resulting lack of stamina, the limitation of strength, in our industrial and commercial workers, which decrease the productiveness of our industries.

On the ground of economy and of our commercial welfare, therefore, as well as on the ground of humanity, I plead for a better system and better care for our children, which will do more to further their welfare than all the sermons ever preached in all the codes ever issued by the Board of Education.

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## **The Society for the Study of Disease in Children.**

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THE Provincial Meeting took place at Bristol on June 18th, under the Chairmanship of Dr. THEODORE FISHER. Prior to the meeting clinical cases

were shown at the Hospital for Sick Children, St. Michael's Hill, and at the Medical Library, University College.

**Some Remarkable Examples of Progressive Muscular Atrophy of the Family Type** were shown by Dr. D. S. GERRISH. He had been able to trace the disease back through five generations, and over forty members of the family had been affected. The usual history was that up to the age of 23 years the patients had been remarkable for their physique and muscular strength, but after that age the extensor muscles of the leg began to waste, chiefly the anterior tibials and the peronei. The condition slowly and steadily increased, and by the fiftieth year it had extended to the extensor muscles of the arms. Sensation had never been affected, but the reaction of degeneration was present. Although their hands were affected, the patients retained their grip, but extension became very weak.

**Notes of a Case of Congenital Stricture of the Œsophagus** were read by Dr. BERTRAM H. ROGERS. An infant about 2 years old began to suffer from vomiting, the condition getting rapidly worse, and being accompanied by emaciation. No definite physical signs of disease were present save much mucus in the lungs, and over-distension of the cervical veins on crying. Test meals showed that most of the food entered the stomach, but part seemed to be retained in the œsophagus. The use of X rays and an œsophageal tube threw little light on the nature of the case. The child died from an increase of the bronchial trouble and dyspnoea. At the necropsy there was found a fairly tight stricture about an inch from the lower end of the œsophagus.

(1) **Congenital Absence of the Left Ear with Facial Paralysis**, (2) **Congenital Absence of the Left Eye with Cleft Palate and Hare Lip**, and (3) **Intra-uterine Amputation of Three Extremities, with Webbed Fingers on the Hand of the only Limb**. These three cases were shown by Mr. H. ELWIN HARRIS. The last case was a very remarkable one, as both legs were absent from 1½ inches below the hip-joint, and the left arm was removed flush with the shoulder-joint. On the stump of the right lower extremity was a very minute leg in which one could trace a rudimentary knee-joint, ankle, and foot. He did not know any satisfactory explanation of such deformities, and did not think that the theory as to amniotic adhesions was conclusive.

Mr. CLEMENT LUCAS expressed his disbelief in the theories current as to intra-uterine malformations such as maternal impressions, amputation by the funis, etc. He thought that if any satisfactory theory could be formed it would be one in which the nervous system played an important part.

Mr. GEORGE PERNET thought that such a theory as that of maternal impressions was a nuisance to science and should no longer be tolerated.

**A Case of Hydrocephalus** in which recovery had occurred was shown by Dr. J. MICHELL CLARKE. The illness probably began at the age of 6 months, and the patient had been under observation for some years. Intelligence had never been affected, but there had been marked weakness of the muscles of the trunk and lower extremities. After three years improvement set in, and the only traces of disease visible were the large size of the head and some signs of partial degeneration of the pyramidal tracts. The treatment had been by small doses of grey powder, continued over long periods.



**Notes of a Case of Hydrocephalus** in which drainage of the ventricles into the subdural space was established was read by Mr. C. A. MORTON. The method of operation was that introduced by Mr. Watson Cheyne, in which a communication is established between the distended ventricle and the subdural space, so that the fluid may be readily absorbed by the meningeal veins. The patient was an infant of 7 months, suffering from congenital hydrocephalus. The first operation consisted in turning down a flap on the right side of the skull below the anterior fontanelle, and introducing a piece of fine rubber tubing, one end of which was passed into the ventricle, and the other between the dura mater and the cortex. The flap of dura mater and membranous skull was then replaced and stitched carefully, so that all oozing had ceased at the end of twenty-four hours. On the eleventh day after the operation the head, which had been much smaller as the result of the operation, again showed signs of enlarging. A few months later the operation was repeated on the opposite side, the head still increasing in size. A small rectangular metal tube was first employed, but as the fluid would not flow through it, a rubber tube was inserted. Some leakage from the operation wound continued for a few days, and the cranial bones were riding. The temperature ran up to 105° on the evening of the tenth day, and the baby died. At the necropsy the brain was found to be lying about an inch from the cranium all round. There was no meningitis, and the drainage tubes appeared to be acting well. Mr. MORTON commented on the fact that although the drainage of the ventricle had been maintained continuously for two months after the first operation, yet the head had increased in size from excessive fluid pressure.

Dr. JAMES TAYLOR congratulated Dr. Clarke on the successful result in his case. It was not often that one saw a case of recovery from hydrocephalus, even after surgical measures, and for a case to recover after medical measures was rarer still. He had noted in some cases of recovery from hydrocephalus that the child seemed abnormally sharp, and above the average in intelligence.

Dr. G. A. SUTHERLAND thought that recovery in cases of congenital hydrocephalus was not so very uncommon, the commonest underlying cause being syphilitic meningitis, and the cure being affected by a prolonged mercurial course. As regards the acquired cases, many of which dated from an attack of non-tuberculous basilar meningitis in infancy, he thought that medical measures were useless, and that the most hopeful line of treatment was by surgical intervention on the lines described by Mr. Morton.

Mr. CLEMENT LUCAS also viewed the condition of hydrocephalus as due to mechanical obstruction, and had made various attempts to remove the ventricular fluid. He had tried to drain the ventricle into the tissues beneath the scalp, but had not found absorption to take place in that region. As regards other operative measures, it seemed impossible at present to descend to the base of the brain, but he thought advances would be made in that direction, for it was only necessary to let the fluid communicate sufficiently freely with its proper arachnoid space for the case to be cured.

Dr. GEORGE CARPENTER agreed that many of these cases were syphilitic in origin, and had seen at least half a dozen of them cured by mercury and chalk.

**A Case of Congenital Dislocation of the Hip**, which had been under treatment by the Lorenz method for four months, was shown by Mr. J. LACY FIRTH.

Mr. A. H. TUBBY thought that this method would only bring about cures in comparatively slight cases, namely, those in which the head was quite near to the acetabulum, and was of a good shape, and the acetabulum was widely open. The results, so far as they had gone, might be classified under three heads: (1) Actual reposition. (2) Good or fair results. (3) No result at all. He could not state the actual number of repositions, but it was comparatively small. The results which were good or fair were those in which the posterior displacement had been altered to an anterior displacement, but without complete reposition. Such patients walked better, some shortening disappeared, and they lost the lordosis. If anything like excessive force was called for, he thought that it was the surgeon's duty to desist, as when force was employed it was almost certain to result in a bad dislocation.

**A Child with Extroversion of the bladder** was shown by Mr. PAUL BUSH. A portion of the mucous membrane had "skinned over" under the constant application of a saturated solution of boracic acid. He proposed doing the old operation of turning over an upper central flap, and covering this by sliding two lateral flaps over it.

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## Editorial.

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### CONGENITAL STRICTURE OR OCCLUSION OF THE ŒSOPHAGUS.

It seems probable that this condition is not so rare as a study of the literature upon the subject would lead one to suppose. Post-mortem examinations are rarely made upon children who die within a few days of life, and the condition cannot be easily diagnosed without such an examination. It is possible that if all the children who die within a few days after birth from inanition and vomiting were examined, congenital stricture or occlusion of the œsophagus would be found to be present in a certain proportion.

Mr. William Thomas of Birmingham has collected nineteen cases of this condition, and another case has just recently been reported at Bristol by Dr. Bertram Rogers. This brings the total number up to twenty.

There appears to be two varieties of this condition. In one a portion of the œsophagus is contracted, missing, or is only represented by a fibrous band; in the other the upper end of the œsophagus terminates in a *cul de sac*, and the upper end of the lower portion opens into the trachea or one of the bronchi.

There does not seem to be any adequate pathological or embryological explanation of this congenital abnormality. It is not in any way comparable with congenital occlusion of the rectum or anus, since the situation in the œsophagus at which the occlusion is found is considerably below the point at which the stomodeum joins the fore-gut in the process of the development of the mouth and pharynx—that is, unless our present views with regard to the embryology of that region are incorrect. It is an interesting fact that associated congenital malformations do not seem to have been present in most of the cases. The symptoms of the condition are very characteristic. The child swallows greedily for a few minutes, and then a fit of coughing occurs, and the whole or the greater portion of the milk is regurgitated. This takes place whenever the child is given food. An examination of the œsophagus with a finger or a bougie sometimes decides the diagnosis. In those cases where complete occlusion is present the child as a rule dies in about four days after birth, from inanition.

The case reported by Dr. Bertram Rogers in this number of the *Journal* differs in many respects from those previously reported. There was no occlusion of the œsophagus, but a definite stricture existed about one inch from the cardiac end. A certain amount of food found its way into the stomach, and as a result the child lived to the age of a year and ten months. The situation of the œsophageal lesion was lower down than in most of the previously recorded cases, and the symptoms were not marked until ten months after birth.

So far none of the cases have lived. The only hope of saving the child is by surgical interference, though even this does not seem to afford much hope at present.

The ideal treatment would be to establish a communication between the blind ends of the œsophagus as originally suggested by Mr. Holmes. Any attempt, however, at such a proceeding in a baby two or three days old would not be feasible. The only alternative seems to be to perform a gastrostomy, in the hope that by feeding the child through an artificial opening its life might be preserved until a later time, when some attempt could be made to establish the natural channel to the stomach.



In those cases where the stomach end of the œsophagus communicates with the trachea Mr. Thomas has suggested that an attempt might be made to feed the child through this opening after performing tracheotomy. This method, however, would seem to have many objections and to have little advantage over a gastrotomy. Rectal feeding has been tried in several cases, but has not proved of much value. This is rather what one would have expected, and at the best rectal feeding, if successful, could but postpone the fatal issue for a short time.

It must be admitted that treatment of this condition does not seem hopeful, but it is to be remembered that as yet only one case has been operated upon, and perhaps as more attention is paid to the subject it may be found possible to save a few of the cases.

Congenital stricture or occlusion of the œsophagus is at present a very rare condition. So also was congenital pyloric stenosis until attention was drawn to it, since which time quite a number of favourable issues have been recorded. And it seems possible that we may hear of a number of cases of congenital œsophageal stricture now that its importance has been recognised.

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## Excerpta Puerilia.

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**The Society for the Study of Disease in Children.**—This Society held its Annual General Meeting at the Hotel Cecil on Friday, July, the 15th, Mr. A. H. Tubby in the chair. The Council reported that the Society, which started with an original membership of 102 members in 1900, now numbered 304 members. Twelve meetings, all of which were well attended, had been held during the Session. It was announced that the Wightman Lecture for the ensuing session would be delivered by Dr. Henry Ashby, of Manchester. The Treasurer's Balance-sheet showed the Society to be in a sound condition financially.

It was unanimously decided to make certain additions and alterations to the rules, to permit of the appointment of an Honorary Editor of 'Reports,' to be *ex officio* a member of the Council. When the rules were originally drawn up at the conception of the Society,

such an appointment had not been contemplated, and the editing of the 'Reports' was left in the hands of the Honorary Secretaries. Under these rules vols. i, ii, and iii of the 'Reports' had been edited by Dr. George Carpenter. Dr. Carpenter's term of office as Secretary having expired, it was thought advisable, in the interests of the Society, that the 'Reports' should still appear under his editorship for a further term of years.

The names of the following gentlemen, approved by Council, were submitted to the meeting, and the ballot papers having been found in order by the scrutineers—Dr. A. E. Jones and Dr. Fortescue-Brickdale—they were declared by the Chairman duly elected:

Office bearers for the Session 1904-5: Council—Mr. Sydney Stephenson,\* Dr. J. Ford Anderson,\* Dr. C. W. Chapman,\* Mr. H. L. Carre-Smith,\* Dr. Percy Lewis (Folkestone),\* Mr. Clinton Dent,\* Dr. C. N. Gwynne (Sheffield),\* Dr. H. R. Hutton (Manchester),\* Dr. Alex. Morison,\* Dr. Porter Parkinson,\* Mr. George Pernet,\* Mr. Thomson Walker,\* Dr. W. A. Wills,\* Mr. Milner Burgess, Dr. Wm. Ewart, Dr. L. G. Guthrie, Mr. A. H. Tubby, Mr. Lockhart Munnery, Dr. Theodore Fisher (Bristol),\* Dr. Skelding (Bedford), Mr. Keith Monsarrat (Liverpool), Dr. Hinds (Worthing), Dr. Robert Campbell (Belfast), Dr. W. A. Mackintosh (Stirling). Treasurer—Mr. R. Clement Lucas.\* Editor of 'Reports'—Dr. George Carpenter.\* Secretaries—Dr. G. A. Sutherland,\* Dr. Edmund Cautley, Mr. R. H. A. Whitelocke (Oxford). Those marked thus (\*) served on the Council or held office during last session, 1903-4.

The Wightman lecture was delivered for the first time by Mr. R. Clement Lucas at the conclusion of the meeting, the subject chosen being "The Hereditary Bias and Early Environment in their relation to the Diseases and Defects of Children." In his opening address the lecturer alluded to the sad death of the founder's only son many years ago, who succumbed to laryngeal diphtheria in spite of temporary relief afforded by tracheotomy, and in whose memory the lectureship had been inaugurated.

The Annual Dinner, which was well attended by representative London and provincial members, was subsequently held in the Victoria Hall. Mr. Sydney Stephenson, Chairman of Council, occupied the chair.

The toast of "The Society" was proposed by the Chairman, who drew attention to the good work performed by the Society in the past. The accession of new and energetic members enlarged its field of observation and gave promise of valuable research work in the future.

Mr. A. H. Tubby, who responded, thought that the Society had a great future before it. It had already made a reputation, and was deservedly in the front rank of scientific societies. Its members were numerous, and he anticipated a great increase. The Society undoubtedly supplied a very great want, and the striking thing was that such a Society had not been instituted long before—it was certainly wanted.

Mr. R. Clement Lucas considered that the future success of the Society was assured, and he advised young and energetic members to join its ranks and assist in the promotion of its objects.

Dr. Alexander Morison, who proposed "The Officers of the Society," paid a warm tribute to the work done by the officials, and to its flourishing condition owing to their untiring exertions.

Dr. G. A. Sutherland replied on behalf of the officials, and said that there was a large fund of latent energy amongst the officers which could be drawn upon for promoting the welfare of the Society.

The toast of "The Guests" was proposed by Dr. George Carpenter. Dr. Carpenter regretted the unavoidable absence of Mr. Charles Wightman from the banquet. He called attention to the fact that there were many distinguished medical and lay visitors present. He hoped that the former would, by becoming members, partake of the intellectual feast which was being prepared for them next Session, and that the latter would follow Mr. Wightman's good example and either themselves found lectureships or induce their wealthy friends to do so. He reminded the members that a most distinguished traveller and author—Mr. Savage Landor—was partaking of their hospitality that evening. Mr. Savage Landor had advanced further into Thibet than any European, and his adventures there were set forth in his book 'In the Forbidden Land,' which doubtless had been read by many of those present. He had travelled in Persia, Afghanistan, and Beluchistan, and had been with the Allies in China. His latest work was 'Gems of the East,' which dealt with his explorations in the Philippines, where a warship and a regiment of soldiers were placed at his disposal by the American Government. His well-known researches on anthropometry were founded on valuable material which he had acquired in his travels, and he hoped that the next gift of anatomical specimens for the public benefit would find their way into the Hunterian Museum of the Royal College of Surgeons. Sir Constantine Holman, another distinguished guest, was, he said, a well-known and representative member of the medical profession



and a Vice-President of the British Medical Association. Although engaged for many years in private practice in Reigate, he had found leisure among other good works to devote a part of his energies to the necessities of Epsom College, and as to how hard he had laboured in this respect the present flourishing state of that School bore ample witness. He was Treasurer and a Vice-President of the College, and the speaker hoped, in the interests of the College, he would long hold office. For his labours His Majesty the King had recently conferred upon him the honour of Knighthood, a popular and well-merited reward. Not least among the guests was Dr. Appleby Stephenson, Consulting Surgeon to the Nottingham and Midland Eye Infirmary; for had he not given to their Society Mr. Sydney Stephenson, their Chairman and one of its founders?

Sir CONSTANTINE HOLMAN, in reply, said he recognised the important share the provincial members had in founding and maintaining the Society. He laid great emphasis on the fact that the key to success in general practice lay in a thorough knowledge of children's diseases. He spoke with approval of the democratic lines on which the Society was conducted, and which no doubt conduced very largely to its success. He thoroughly believed in the Society, was in accordance with its aims and objects, and would do all that lay in his power to promote its welfare.

Dr. APPLEBY STEPHENSON was pleased with the opportunity which had been afforded him of replying to the toast of "The Guests," and of tendering his support to his son in the chair. He recognised the benefits which had been conferred on the medical profession and the public by the founding of the Society, of which he was an appreciative guest, and he hoped that the endowment of reward scholarships in children's diseases in the gift of the Society would not be long withheld by those who were in a financial position to give effect to this obvious want in its administration.

Dr. ALFRED LINGARD, the Imperial Bacteriologist to the Indian Government, who also was called upon by the Chairman to reply for the guests, reminded Mr. Stephenson that he had recently been elected a member of the Society, and took the warmest interest in its future. He entertained the meeting with some interesting details of his life in the Himalayan Hills. On his next return to this country he hoped he would be able to participate actively in the Society's good work.

Dr. WILLIAM EWART proposed the health of the Chairman. He pointed out how much the Society was indebted to Mr. Stephenson for his work in the past. Dr. Ewart reminded the Society that Mr.

Stephenson was the first to hold the post of Honorary Secretary, and he skilfully piloted the Society through the rocks and shoals which at one time threatened to wreck it. Mr. Stephenson held the post of Honorary Secretary for three years, and at the termination of his office he was unanimously elected Chairman of Council.

MR. STEPHENSON, in his reply, said that although he was relinquishing office, he would still take an active interest in the Society, and that, as a member of Council, he hoped to be in a position to render good and valuable service.

Mr. George Pernet contributed to the enjoyment of the evening by playing pianoforte solos and by singing songs. Amongst others who acted as entertainers were Dr. Leonard Guthrie, Dr. Alexander Morison, Mr. Clement Lucas, Dr. C. W. Chapman, Dr. Fortescue-Brickdale, and Dr. Appleby Stephenson.

Among the members and guests were Dr. C. W. Chaffey (Brighton), Dr. Frederick Willcocks, Mr. Robert Evan Adlard, Dr. Page May, Dr. Laing Gordon, Dr. Septimus Sunderland, Dr. Skelding (Bedford), and Dr. David Bower (Bedford).

**The Royal Institute of Public Health.—Congress at Folkestone.—Section for child study and school hygiene.**—The Inaugural Meeting took place in the Pleasure Gardens Theatre on Thursday, July the 21st, when the President, the RIGHT HON. THE EARL OF RADNOR, delivered the Inaugural address.

Professor W. R. SMITH, M.D., D.Sc., President of the Institute, in well chosen words, thanked the President for his interesting address, and hoped that the deliberations of the Congress would be productive of much good to the common weal.

The President of the Section for Child Study and School Hygiene (Sir GEORGE KEKEWICH, K.C.B.) opened the meeting at the Masonic Hall, on Friday, July the 22nd, with an address on "Physical Education," a full report of which appears in this issue.

Dr. STCLAIR THOMSON proposed a hearty and appreciative vote of thanks to the President for his lucid, suggestive, comprehensive, and encouraging address. Sir George Kekewich had been invited to preside over the section owing to his personal eminence and his enthusiasm on the subject of child study.

This was seconded by the Rev. A. L. HUSSEY, M.A., who said that the popular notion about "entrance scholars" being feeble creatures was quite a mistaken one; the case was usually quite the reverse. *Mens sana in corpore sano* was a most true proverb.

Mr. J. H. YOXALL, M.P., said the address was one of admirable

common-sense, full of the presence of enthusiasm, and yet devoid of faddism. As to games, the evil was not that games occupied too much time, but that talking and thinking about games took up so much of the study time—a fault common to all classes of schools and colleges in this country, where class for class we studied less industriously and continuously than abroad.

Mr. J. F. BLACKER, representing the National Union of Teachers, comprising 51,000, wished success to the labours and deliberations of the section. He said that the good work done in school was undone by the insanitary conditions in which the poor lived. The large classes which have to be taught in one room by one teacher still further hindered the good that might result from proper exercise taken in school. Every child that is born should have the opportunity given it to live and escape from degrading surroundings. Sir George Kekewich was the chief agent in giving happiness to the child's school life by the abolition of the cast-iron system of payment by results, and by the opening out of a new outlet of non-educational ideals. Teachers have always done their best for the children. All the organized games of cricket, football, swimming, etc., have been willingly undertaken by the teachers, ungrudgingly and without regard to any other consideration than that of the child. He begged to support the vote of thanks.

Alderman ALEXANDER CAMERON, of Stockton-on-Tees, gave an instance of a school built in Stockton-on-Tees to accommodate 500 children. Some years later that school accommodation was reduced to 367 in order to increase the air capacity for each scholar. This year the Board of Education had increased the accommodation of that school to 544. He urged that politics and denominationalism should be left out of the question of education.

The vote of thanks being carried with acclamation, the PRESIDENT suitably replied, and announced that the honorary secretaries of the section, Dr. Percy Lewis (Folkestone) and Dr. George Carpenter, who had been indefatigable in their efforts to promote the success of the meeting, and at the same time provide for the comforts of the delegates, had procured a large number of interesting papers, which would well occupy the time of the meeting, and he hoped that good results would follow their deliberations, to which he wished hearty success.

Dr. T. D. LISTER read a paper on "The Out-patient Child and School Attendance." He doubted whether hospital physicians were wise in undertaking the granting of medical certificates prohibiting school attendance. The schools were under no obligations to accept



any such certificates, and it was open to the authorities, in case of doubt, to employ their paid medical officer. He gave instances where expert knowledge and views had clashed with the ideas of the paid official and greatly to the detriment of the child. He advocated regular medical inspection and examination of all the children in all the schools. In New York medical officers were employed under the Board of Health in addition to a corps of school nurses. The duties included a weekly routine inspection of the children in every school, public or private. He considered it almost a duty at every medical congress where children are considered to press in the public interest for the methodical supervision of the health of the developing citizen.

Dr. BEALE COLLINS (M.O.H., Kingston-on-Thames) agreed with the recommendation that school children should be periodically examined by a medical man.

Dr. CHAS. V. McCORMACK (Bootle) objected to an education authority casting doubt on the certificates of duly qualified medical practitioners.

Dr. WILLIAM EWART thought regular medical inspection would be an admirable opportunity of periodically passing in review our growing population.

Mr. J. G. TURNER read a paper on "The Teeth of Children in Relation to Public Health." He dwelt first on the influence of defective teeth in early childhood on the permanent dentition, and pointed out that the dental equipment might be crippled for life. The next detail was the relation of myopia to dental diseases in childhood. It seemed probable that it might be directly traceable to malnutrition due to dental diseases in childhood. He had seen epileptic fits reduced in frequency by 90 per cent. in a child by extraction of dirty and decayed teeth. The next proposition was that caries was a disease of young life, and it is environment that makes it so. Caries comes from outside—the teeth are but passive resisters. Soft food was a fruitful source of caries, starch and sugar, which undergo acid fermentation, being specially harmful and prepare the way for bacterial attacks on the dentine. He advocated hard food as a preventive of caries, insuring mechanical cleansing of some parts and flushing of others by saliva. Malnutrition in infancy resulted in badly formed permanent teeth. Inquiry into the history of such cases almost invariably brought out the fact that in infancy these persons were fed on "infant foods" or at best on boiled cows' milk. Observers had found caries more frequent in artificially-fed infants than in those breast fed. Ulcerative stomatitis showed

well how disease might be communicated from mouth to mouth. He had seen it spread through a whole family, and if one germ, why not another? He thought that unclean mouths and carious teeth of children played an important part in the dissemination of tubercle. He advocated instruction in mouth-cleanliness at every Board School. The teeth should be cleaned the last thing at night, and no food of any sort, especially biscuits or sweets, allowed after this cleaning, as so often happens at present. Careful use of the tooth brush, of waxed silk passed between the adjacent teeth, and of a dilute antiseptic mouth-wash applied for three minutes at a time, were preventives of caries. Finally, at least a half-yearly visit to the dentist for an overhauling and thorough cleaning. His watchword was prevention. He would create a special officer whose duty it would be to inspect and clean children's teeth, and to begin with, commence with the dental hospitals. This might be followed by the establishment of similar posts in dispensaries, cottage hospitals, schools, etc.

Mr. A. H. TUBBY congratulated Mr. Turner on his paper. It was only by perpetual reiteration by experts that facts were finally accepted by the public.

Dr. WILLIAM EWART dwelt upon the value of the views set forth by the reader of the paper.

Dr. HARRY CAMPBELL read a paper on "The Evil Effects of too soft a Diet in Children." He emphasised the importance of giving children their starchy food in a form compelling adequate mastication. Not only were digestive disturbances occasioned by soft food, but the maxillary apparatus not being exercised adequately, did not develop properly; neither did the nasal passages or the naso-pharynx. The teeth were apt to be irregular and to decay, and the child became the victim of adenoids. That the latter was a dietetic disease he had not the slightest doubt. He would give hard, solid foods at the seventh month, when the infant should be allowed to gnaw at chop bones and chicken bones and to eat hard, leathery crusts, biscuits, sugar-cane, and certain fruits. In this way the child learnt to masticate by instinct, and not till then a limited quantity of the softer farinaceous foods might be permitted. Throughout childhood the bulk of the starchy foods should be in a form which will compel mastication, and they not only favour the development of the maxillary apparatus (including the jaws, teeth, tongue, and salivary glands) and the neighbouring nasal passages and naso-pharynx, but further insure adequate buccal digestion.

Mr. WILLIAM HALL (Headingley) considered "adenoids" to be due

to defective bone-making owing to the insufficiency of bone-forming foods in the dietary.

Mr. TURNER agreed generally with Dr. Campbell's points, and he was glad to see that Dr. Campbell's ideas as to food were the same as his own.

Dr. STCLAIR THOMSON remarked that adenoids were found in all races and in all climates, though varying in frequency. The cause of adenoids was unsettled. He did not think that food entered into the causation. The high arched palate had been alluded to, and a point of interest about that malformation was that it was claimed by the throat specialists, the alienists, and the dentists as being something special to their own particular departments. While agreeing with Dr. Campbell that mastication was a much neglected function, he could hardly accept it as a complete solution of a difficult subject.

Dr. T. WHITEHEAD REID (Canterbury) read a paper on "School Food." He said that the child required relatively more food for its body weight than the adult. He was of opinion that indigestion was responsible for most bad work in schools, and insisted on the necessity for good cooking. He advocated a liberal breakfast. He thought that schoolmasters' wives should cultivate the art of cookery, so that they might superintend the children's meals. He alluded to the indiscretion of boys in training for sports cutting off necessary articles of diet, such as sugar, fat, and farinaceous foods. The essence of training was to avoid indigestion and to gradually accustom the heart and lungs to sustained exertion.

The Rev. A. L. HUSSEY alluded to the evils of constipation. He did not believe in allowing children to cultivate fads in diet.

Dr. HUNT (Colchester) did not believe in matrons managing the food in schools. He held that Masters' wives should be responsible and should dine with and on the same fare as the boys as the best means of securing a well-cooked and nourishing dietary.

Dr. REID, in reply, said that in choosing a school for his own girls he would choose one where instruction in cookery was given.

There were no meetings in the Section of Child Study on Saturday, July the 23rd, and the afternoon was devoted to inspecting the schools, for the upper and middle classes, which are numerous in Folkestone.

Sir CHAS. CAMERON, in seconding a vote of thanks to Lord Radnor at the inaugural meeting, had alluded to the fine physique of the young ladies attending the schools, which attracted his attention, and which, he said, was such a good advertisement for the pure air of



Folkestone and for the care which was evidently devoted to the pupils in the town.

The first visit paid by the Committee of Inspection was to Miss Pincoff's school, where little boys, from six upwards, mostly only sons, are educated for the larger preparatory schools. The boys, many of them the sons of peers, are well known in Folkestone for their smart appearance, their sailor suits and scarlet caps. The difference in physique between the fresh arrivals and those who had been under her care for a few terms was most marked. The bedrooms and the school fittings and appliances were found to be admirable.

At the Grange School the Committee found Mr. Jelf, son of Mr. Justice Jelf, had succeeded the Rev. A. L. Hussey, who had founded the school and presided over it for many years. Among the many excellent points of this well-known school, where boys of from seven to fourteen years of age are prepared for the army and navy, the learned professions, and the public schools, were the sanatorium, the chapel, and the gymnasium. The sanatorium is a perfect little hospital standing in the school grounds, fitted with two wards of five beds each, with the usual offices and a large convalescent room. Every facility is thus afforded for dealing with epidemics, should they unfortunately arise. In every cubicle fire-escape appliances were to be seen, and the boys were drilled regularly in their use. The dining hall was a model of comfort and airiness, and a point which the Committee marked with great approval was that Mrs. Jelf presided over the children's meals. Dr. Percy Lewis, who was present, also informed them that she was unremitting in her attention to boys who were sick. The boys were paraded, and it was obvious that their bodies were as well cared for as their brains, as judged by the long list of scholarships which decorated the schoolroom walls.

Mr. Roderick's school, now moving to new premises which stand on over three acres of ground on the cliffs between Folkestone and Shorncliffe, is admirably adapted for a high-class modern school for boys. All class-rooms and dormitories are spacious and well proportioned. They are lighted with windows reaching to the ceiling. The opposite side of each room opens immediately into a corridor, and this again has large windows and fan-lights, thus insuring at short intervals an effective change of air. The bathing arrangements, which comprise ordinary baths, spray baths, and shampoo-douche, are admirable for the purposes in view. The building is heated throughout by hot water, the regulation of the temperature of each room being under easy control. The school,

which covers 10,000 square feet, is preparatory. There is a commodious gymnasium, which can also be used as a play-room or lecture-hall. The Committee noticed as a special feature a large changing-room, warmed and ventilated and fitted with separate cabins for each pupil. A sheltered playground so that the pupils could be sent for an interval between each lesson, and the Head Master claimed that he thereby obtained twice the amount of work from the pupils.

Miss Bradnack's school, which was founded by her father thirty years ago, is a feature of Folkestone. The Committee were satisfied with the healthy appearance of the boys. At the time of their inspection a meal was being prepared, and they were pleased to note the liberal supply of fruit for the scholars. A collection of photographs of distinguished men was seen who had been former pupils of the school. In the school there were several two-bedded rooms for the special accommodation of brothers. Adjoining this house was Mr. Oswald Bradnack's school. All the rooms in this building had a south or west aspect and a charming sea view. Both Mr. and Mrs. Bradnack are well-known musicians, and it is therefore not surprising that the study of music is made a prominent feature here by those who have a taste for it.

At both these institutions the great affection existing between the pupils and the members of the Bradnack family was a matter of comment and conveyed the idea of a happy home life.

The school accommodation for girls in Folkestone is of a no less high order than that for the boys. The Committee were only able to visit a few of them, amongst these being Miss Ismay's and Miss de la Mare's.

Miss Ismay's is beautifully situated and overlooks large public gardens. All the rooms have a south or west aspect with sea view. The bedrooms contain cubicles for each girl, and are airy, well-ventilated, and daintily furnished. The sanitary appliances and kitchens are eminently satisfactory. The girls present a charming picture of health and happiness, and the whole tone of the school bears an aspect of refinement and comfort. Miss Ismay has the reputation of having a special gift of bringing out the best characteristics of each pupil, a reputation which is apparently well deserved.

Miss de la Mare's represents one of the large girls' schools. The house is a modern building situated in its own grounds in a charming part of the town. From kitchen to garret everything is spotlessly clean and in apple-pie order. The bedrooms and class-rooms are large and well ventilated. The lavatory accommodation is modern

and excellent. The committee were fortunate in being present at a gymnastic display by the girls, who were of fine physique. The precision gained by the scholars in their exercises afforded them astonishment and pleasure. They subsequently had an opportunity of viewing a tennis tournament, which was presided over by the gymnastic mistress, and in this respect the girls were no less efficient than in their gymnastic display. Girls in this school are daily reminded that domestic matters are not to be despised, but must be attended to as a duty. Thus they make their own beds, they are compelled to be tidy, and they skilfully employ their needles on the repair of their apparel. Every physical impression that human ingenuity can devise is brought to bear on these children to mould them into well-educated, capable, helpful, and resourceful women of sound constitution. The committee left with the impression that they had been entertained by a thoroughly capable mistress in the person of Miss de la Mare, who would be willing to adopt anything of a novel nature which would be likely to benefit her pupils mentally or physically.

It was impossible for the delegates to visit all the schools of Folkestone, but if those which were inspected are fair samples of the whole, then the town is to be congratulated in possessing such excellent institutions, and they reported to that effect. They were pleased that private schools were assuming a lead in the appointment of medical officers, who alone should be responsible for the health of the children. Those mentioned, as well as others, had secured the services of Dr. Percy Lewis as their medical adviser, an expert in school administration.

**The teaching of hygiene in elementary schools.**—Every one who has witnessed the extent to which Board School children suffer from avoidable disease will be in hearty sympathy with the memorial presented to Lord Londonderry in June on this subject. The memorial was signed by no fewer than 14,718 medical practitioners in the United Kingdom, and was introduced by Sir William Broadbent, Sir Victor Horsley, Sir Thomas Barlow, Sir Michael Foster, M.P., Dr. Mary Scharlieb, and other influential members of our profession. The attention of the Education Department was drawn to the fact that no instruction whatever is at present given to children in the most important of all subjects—the art of keeping well by the pursuance of simple rules of hygiene—and it was urged that steps be taken to alter this very anomalous state of affairs. With this aim we are in the heartiest agreement, as being one which above all



others would improve the health and development of children throughout the country. Lord Londonderry, in reply, was unable to give any definite promises on behalf of the Government, though he expressed his sympathy with the proposal.

## Abstracts from Current Literature.

### Medicine.

**Spastic paraplegia in a child** (*'Société de Neurologie,'* January 7, 1904; *'Archives de Neurologie,'* p. 170).—**Dejerine** and **Chiray** showed a girl aged eight, who had developed paraplegia in the past six months. There had been no previous illness. There was no disturbance of sensation and no sphincter trouble, but the patellar and Achilles reflexes were exaggerated, although no extensor response was present in the toes. The upper limbs were intact. The right pupil reacted neither to light nor to accommodation, and the left reacted sluggishly to both. Mental enfeeblement had accompanied the other symptoms. Lumbar puncture showed a lymphocytosis. There were no spine symptoms to indicate Pott's disease, and the case was too old for it to be one of Little's disease. Medullary congenital syphilis was the provisional diagnosis, although the child showed no other stigmata. The mother had lost two infants at an early age, and the last one, dying at three months old, had certainly had congenital syphilis.

**Raymond** had seen an analogous case in a girl of fifteen, whose father had died of cerebral syphilis. The case proved to be one of juvenile general paralysis.

A. ERNEST JONES.

**Infantile herpes zoster** (*'Rev. des Mal de l'Enf.,'* December, 1903; *'Gazette des Hôpitaux,'* 1904, p. 219).—From a study of sixty-three cases, **Fabre** concludes that fever is common, either at the onset of the eruption, or as the result of a complication. Pain does not usually occur, but may be sufficiently severe to prevent sleep. The duration is shorter than in adults, and the development of the eruption is more irregular. Treatment should be directed towards improving the general health. The local lesions should be treated as in the adult, and special attention should be paid to protecting the vesicles and preventing their rupture, and directions are given for securing this end.

S. H. BOWN.

**Kernig's sign** (*'Amer. Jour. Med. Sciences,'* 1904, 1, p. 1064).—This sign was pointed out by Kernig in 1882. It is an inability to extend the leg fully when the thigh is at right angles with the trunk. The angle at the knee can be measured, and varies from 90 to 135 degrees in positive cases (Kernig). Since then anything under 135 degrees has been accepted as positive. Kernig maintained that the sign is a constant and early symptom in meningitis, that it may be present in the arms, and that it can be obtained in other conditions. **Miller** enumerates the observations and results of many other observers, and gives his own. The angle was measured by an inclinometer. He divides his cases into four groups—I. Acute in-

fections, mainly typhoid and pneumonia. 2. Various forms of meningitis. 3. Central and peripheral nervous troubles. 4. Patients who had been in bed for several weeks. He prefers to take an angle of 115 degrees or less as positive, finding that angles of higher degree are not infrequent in many other conditions than meningitis. Taking 115 degrees as the maximum, he found the sign present in 45 out of 190 cases; in 6 out of 10 cases of meningitis; with absolute absence in two; in 3 out of 22 pneumonias; in 5 others a higher angle (up to 125 degrees) was present, and in 14 it was absent. None of the cases of pneumonia showed signs of meningitis. He concludes that a maximum angle of 115 degrees gives more valuable results than an angle of 135 degrees, as proposed by Kernig. The angle depends in part on the force used in extending the leg, and therefore the actual measurement of the angle is not essential. The sign is present in a large percentage of cases of meningitis, but is not constant, and may be transitory or only appear late. Cases should be examined daily. It is occasionally present in a typical form in a number of widely different conditions, and there is therefore no uniform cause for it. It may be unilateral. If present in suspected meningitis, it is in favour of the diagnosis, but its absence in the early stages is not infrequent.

EDMUND CAUTLEY.

**A case of recovery from tetanus** ('*Jahrb. f. Kinderheilkunde*, June, 1904, p. 776).—**F. Ehrenfreund** records a case which occurred in a boy aged 12½ years. The condition was said to have come on as the result of a blow on the neck. The boy presented the characteristic features of the disease, namely trismus, the risus sardonicus, opisthotonos, clonic spasms, and contractures. In view of this the writer believes that any suggestion of hysteria as an explanation of the condition must be negatived, and that the case was one of genuine organic tetanus. No abrasion was discovered which might have constituted the point of invasion of the system by the tetanus bacillus, but the writer attaches no importance to this. The case was treated by means of chloral internally, together with injections of tetanus antitoxin. Under this régime improvement soon set in, and the patient was discharged as cured after nine weeks in hospital.

E. P. BAUMANN.

**Congenital laryngeal stridor** ('*Du stridor laryngé congénital des nourissons*.', *Thèse du doctorat du Bordeaux, Imprimerie du Midi*, 1902).—

**F. Martin** refers the occurrence of some forms of congenital laryngeal stridor to such local lesions as glottic spasm, paralysis of the laryngeal muscles, malformation of the larynx, and is of opinion that other pathological conditions may not infrequently be combined with these, such as adenoid vegetations, hypertrophy of the thymus, and swelling of the tracheo-bronchial glands. But he is also careful to point out that the true congenital laryngeal stridor is caused, as Sutherland and Lack have shown, by the epiglottis being sharply folded upon itself, with which is associated an approximation of the aryepiglottic folds in such a way that the upper entrance to the larynx is reduced to a long narrow slit. During deep inspiration the soft walls of this slit are still further drawn in towards one another, and a crowing noise is produced. Sutherland and Lack were able to see the flapping to and fro of the ary-epiglottic folds in cases which were examined during the paroxysms of stridor.

**Charles Hermann** ('*N.Y. Med. Record*, October 18, 1902) reports a case in a child 3½ months old, in which the stridor appeared shortly after

birth. As is generally the case in this condition, the crowing was not constant, but could be brought on by making the child cry. In other respects the patient was quite healthy. The diagnosis of congenital laryngeal stridor rests upon the following considerations—the presence of the stridor at birth, its purely inspiratory character, the absence of continued cyanosis, and the impossibility of removing the stridor by altering the position of the patient (D. Crossby Green, 'N.Y. Med. Journal,' June 27, 1903). In addition to these we may add that, following the directions given by Lack for the laryngoscopic examination of these cases—pulling forward the base of the tongue, and with it the epiglottis, by the finger placed in the pyriform fossa—one may be able to make out the abnormal shape of the supra-glottic space. The prognosis in these apparently alarming cases is, as a rule, good. As the patient grows older the divergence between the parts bounding the entrance to the larynx is increased, and these parts become more resistant. At the same time, fatal cases have been recorded, generally where bronchitis or some other pulmonary complaint has occurred to aggravate the dyspnoea; and it is further to be kept in mind that the long-continued obstruction to deep inspiration may lead to deformity of the chest wall, especially in rachitic children. With regard to treatment it is obvious that while much may be done to preserve and improve the general state of such a patient's health, little or nothing is possible for the complete and permanent removal of the symptom. An attack of distress which threatens life may call for intubation or tracheotomy. Every effort should be made to shield the little patient from attacks of bronchitis. (J. E. Newcomb, 'N.Y. Med. Record,' July 25, 1903.)

DAN MCKENZIE.

**Endemic cretinism and treatment by thyroid extract** ('*Berliner Clin. Wochenschr.*,' No. 32, 1903).—**Magnus-Levy** has had fourteen cretinoid children under observation, thirteen of whom had small thyroids, while one was goitrous; as these were taken from only seven families the author's contention that they were endemic and not sporadic cases may be taken as probably correct. Treatment with the usual thyroid gland extract was carried out in seven cases with a fair result; that is to say, the stature of the patients increased, their intelligence showed some enlivening, and the swellings of the skin disappeared. From these results the author concludes, what has long been tacitly admitted to be the case, viz., that endemic cretinism, like sporadic cretinism, is due to a deficiency or absence of the thyroid secretion.

DAN MCKENZIE.

**The Enumeration of Leucocytes** ('*Lancet*,' June 25, 1904).—**A. Ernest Jones** describes the various methods in use for the determination of this count. He gives a new procedure, by means of which the corpuscles present in 1600 squares can be counted in a very few minutes, and with no calculation whatever. Several reasons are given why the use of separate pipettes for the red and white corpuscles—acetic acid being the diluent in the latter case—is preferable to counting both corpuscles from one pipette, with a stain as diluent. Two of the chief fallacies of the differential count are considered in detail. These are the errors due to paucity of data, and the misleading custom of giving results in percentages instead of in absolute numbers. Illustrations of the mistakes caused by both fallacies are given, and the mathematical basis of the subject explained.

THEODORE FISHER (Bristol).



**Ascites in tuberculous peritonitis varying according to the exclusion of chlorides from the diet** ('*La Clinique Infantile*, March 1, 1904, p. 129).—**Nobecourt** and **Vitry** contribute a paper on this subject. Since attention was drawn to the part played by the chlorides in the production of serous accumulations in the tissues, several observers, notably Achard, Paisseau, Widal, and Chauffard, have reported good results which have followed the removal of chlorides from the diet. Nobecourt and Vitry tried the effect of alternately decreasing and increasing the chlorides in the two following cases:—(1) A boy of 10 years was admitted into hospital on July 24th, 1903, suffering from tuberculous peritonitis and ascites. When the patient was up the fluid rose to three fingers above the umbilicus, the general condition being otherwise good. The previous year a median laparotomy had been performed, with slight result. On October 31st the child weighed 24 kilogrammes, and eliminated 13 grms. of chlorides daily on an ordinary diet. The next day he started Widal's dechlorided diet, *i. e.*, raw meat 210 grms., potato purée 500 grms., butter 70 grms., tea with sugar  $1\frac{1}{2}$  litres. This régime was continued till November 16th. When the child had accommodated himself to the diet the daily elimination of chlorides averaged 2 grms. The general state continued the same, the abdominal measurement at the level of the iliac crests was 62-60 centimetres, against a previous 64. The weight decreased by a kilogramme and the urine from 1,800 to 800 grms. On November 17th 10 grms. of salt were added to the previous diet, half taken with the meat, half in a cachet. The weight increased by  $1\frac{1}{2}$  kilogrammes in three days. The abdominal measurement rose again to 64 cm., and the fluid increased so as to cause slight dyspnoea. The chlorides eliminated in the urine did not increase till the third day, then they rose to 11 grms. per diem, and the urine to 1,600 grms. On November 21st Widal's diet was recommenced and somewhat similar results again obtained. On December 1st the child was placed on ordinary diet, with the result that the weight was increased and the chlorides eliminated were also increased. (2) A female of 14 years was admitted into hospital in January, 1903, suffering from tuberculous peritonitis with effusion. Her temperature at night rose to 100° F., and she had considerable dyspnoea. On January 23rd the patient was put on Widal's dechlorided diet. The weight fell in five days 1.35 kilogrammes, the ascites diminished so that the abdominal measurement was reduced from  $74\frac{1}{2}$  cm. to 73, and the elimination of chlorides fell as low as 1.5 grms.: the urine dropped from 1400 to 600 grms. On January 28th the patient was put on ordinary diet, with raw meat in addition. The weight increased a kilogramme the next day, and the chlorides eliminated gradually increased, but there was no great increase in the quantity of urine. These two cases illustrate the connection between the ingestion of salt and serous effusion. It is interesting to note that with dechloridation the weight, urine, and excreted chlorides diminish gradually and simultaneously. In rechloridation the chlorides do not vary for the first two days, when the weight increases most, and the urine does not increase for the first three days. Corresponding results have been obtained when a similar diet has been applied to cases of cardiac and cirrhotic ascites. Nevertheless, it does not follow that the dechlorided diet should be regarded as a means of treating tuberculous peritonitis, since salt plays an important part in general nutrition and harm may be done by restricting its use.

A. T. BARNARD.

### Pathology.

**Contribution to the study of acute anterior poliomyelitis** (*Société of Neuro-pathology and Psychiatry of Moscow, January 17, 1903; 'Archives de Neurologie,' July, 1904, vol. xviii, p. 87*).—**P.A. Préobragensky** reports fully the case of a man, aged 23 years, who had been bitten by a mad dog. He underwent anti-rabies treatment, but after two months suddenly felt a weakness of the right arm, with, later, a difficulty in breathing. He went into hospital on the next day, but died in a few hours. When examined clinically, he was very excited, had great cyanosis and dyspnoea, and had complete paralysis of the right upper extremity. The knee-jerks were absent; there was profuse salivation. At the autopsy was noted an acute anterior poliomyelitis, from the fifth to the eighth cervical segment. Microscopically were demonstrated large hæmorrhages, dilated vessels, an accumulation of leucocytes, a proliferation of glia cells, oedema of neuroglia and degeneration of the nerve-cells. The region of the antero-lateral artery seemed to be more affected than the rest. In several spots in the central nervous system were present great accumulations of leucocytes (rabies tubercles of Babès). The author considers that there is no essential difference between myelitis and poliomyelitis, the conditions fading into each other both clinically and pathologically. He looks upon this case as a poliomyelitis of known infectious origin. (The findings in this case seem to support Crocq's criticisms of van Gehuchten's and Babès' opinion regarding the specificity of the central nervous system changes in rabies.)  
A. ERNEST JONES.

**A treatise on the blood in a case of Barlow's disease: Analogy with myeloid purpura** (*'La Clinique Infantile,' February 15, 1904, p. 87*).—**Lenoble** thinks that Barlow's disease may be regarded as a form of primary or myeloid purpura, attacking very young children and revealing a special aspect of the disease in question. Clinically he mentions four points of analogy—1. In both diseases bony changes may go on to subperiosteal hæmatomata. Joint pains have been described in myeloid purpura as well as in scurvy. 2. Purple spots in both cases. 3. Hæmorrhages in connection with the mouth are a feature in both diseases. 4. They have a common origin, *i. e.* alimentary disturbances, resulting in gastro-intestinal troubles and giving rise to a toxin, acting specially on the bone marrow. The study of the blood in a case of Barlow's disease of a girl of 11 months enabled M. Lenoble to note the following points:—1. No retraction of clot. 2. Presence of normoblasts, a few neutrophile myelocytes (specially transitional forms). 3. Alterations in the hæmatoblasts (blood-platelets) which have become more scanty, but more bulky, and have little tendency to agglomerate. These alterations, he said, were identical with those observed in primary purpura. However, he considered more cases should be examined before the identity of the diseases could be considered proved. If the blood were to be any use as guide it should be examined very early in the disease, since the presence of abnormalities was very fleeting. Normoblasts should be regarded in scurvy, as in purpura, as a means of defence against infection, not as the indication of a commonplace anæmia.

A. T. BARNARD.

**The action of the tubercle bacillus on the meninges and brain substance** (*'La Clinique Infantile,' January 15, 1904, p. 49*).—**Armand Delille** has made a special study of the action of the tubercle bacillus on



the meninges and brain substances, and has arrived at the following conclusions:—(1) The tubercle bacillus acts on nervous matter (*a*) by a local poison which operates first on the meninges and then on the vessels of the underlying tissues. The brain substance thereby suffers and degenerative lesions are mechanically produced; (*b*) by a diffusible poison which causes symptoms of nervous intoxication, though by no known method can changes in the cell or alterations in the meninges be demonstrated. (2) Tuberculosis of the meninges is never complicated by inflammatory lesions of the brain substance proper. Important alterations may occur in the tissue directly underlying the diseased pia mater, but such lesions are always degenerative and consequent on vascular changes. He considers that the symptoms are mostly due to local lesions or vascular degeneration, and that intoxication of the bulb by diffusible poisons only occurs when the disease is far advanced.

A. T. BARNARD.

**Concerning modifications caused by castration, as regards ossification of the epiphyses** (*La Clinique Infantile*, April 1, 1904, p. 207).—**Variot** in a "Communication to the Société Médicale des Hôpitaux," gives some facts concerning the process of ossification of the epiphyses in cryptorchids. He considers that the effect of abdominal cryptorchidism and early castration both result in a general dystrophy, but the skeleton and the nervous system suffer most. He cites a case of his own where there was abnormal length of the limbs, both inferior and superior. He quotes the observations of Pittard, who made a special study of this subject among the *Skoptzy*, a religious sect among whom castration is enforced. Pittard made exact observations and measurements on thirty eunuchs, which he divided into two groups, the hairy (10), and the smooth (20). The last-named only he considered as true eunuchs. According to these measurements, the relative length of the lower limbs to the whole body was greater by from 6 to 10 cm. than the same proportions in the normal man. The upper limbs were of about the same proportions as the lower. The diameters of the cranium were, however, reduced in all directions, and the brain was correspondingly small. These observations are in keeping with those made by various observers on animals. The bull, for instance, has his hind-legs shorter in proportion than the bullock. Buffon, in the eighteenth century, remarked that the growth of the antlers was retarded in stags that had been castrated. An attempt has lately been made to distinguish between spermatogenesis and testicular secretion, which latter process has such an important trophic action on the general economy.

A. T. BARNARD.

### Therapeutics.

**Case of abasia cured by hypnotic suggestion** (*Société d'Hypnologie et de Psychologie*, May 17, 1904; *Archives de Neurologie*, vol. XVIII, p. 81).—**Stembo** (of Vilna) showed a girl, aged 10 years, who had suffered from a feverish attack for a week. After this she was quite unable to walk on the ground, although she could move her limbs and walk on a bed, bench, or table. Some months afterwards she had measles, and then could walk on the ground, but only if someone held her hand. Left to herself, she could not walk a step. Treatment by hypnotic suggestion quickly cured her. Probably there was functional disturbance of the association centres, and hypnotic suggestion revived the memory of the mechanism of walking.

A. ERNEST JONES.



**The therapeutics of protylin** (*'Therap. Monatshefte,' June, 1904*).—**M. Bürger** describes the results of a series of observations upon the value of this drug in the treatment of various pathological conditions. Protylin, which is a synthetic preparation, is an albuminate of phosphorus. It contains a considerable quantity (2·7 per cent.) of this latter substance, and the writer ascribes to this fact its efficacy in the treatment of diseases of the nervous and osseous systems. It is also prepared in combination with iron and other salts. The writer obtained excellent results by its use in anæmia, various cachectic conditions, neurasthenic and organic nervous lesions, in convalescence from pyrexial conditions, etc. The most marked results, however, were obtained by doses of 1–2 gr. of protylin in the treatment of rickets. In all cases rapid and striking improvement took place.

E. P. BAUMANN.

**The therapeutics of fersan** (*'Therap. Monatshefte,' March, 1904*).—**B. Ehrmann** records the results of a series of observations upon the action of this drug in the treatment of various pathological states. Fersan is an acid albuminate of iron and phosphorus which is prepared from the blood of oxen. The writer employed it with marked benefit in the treatment of anæmia, chlorosis, pyrexial conditions, in states of convalescence, and in rickets. The drug yielded speedier and more striking results than any other iron preparation. The improvement of appetite and of the general condition of the patient were especially remarkable. In rickets excellent results were obtained on doses of 6–9 gr. per diem.

E. P. BAUMANN.

### Surgery.

**The results of cerebral surgery in congenital mental defects** (*'New York and Philadelphia Medical Journal,' September 19, 1903; 'Archives de Neurologie,' July, 1904, vol. XVIII, p. 73*).—**William D. Spratling** has summarised the results of 194 operations in the above condition. He says that he knows of no case in which surgical intervention has established a normal mental condition. The fact that nowadays operation is so rarely resorted to, as compared to the frequency of operation ten years ago, is in itself strong evidence against the utility of such procedure.

A. ERNEST JONES.

**Actinomycosis of the tonsils** (*'Amer. Journ. Med. Sciences,' 1904, vol. II, p. 74*).—**Wright** examined seventy-five hypertrophied tonsils microscopically and in one of them, removed from a boy aged 12 years, he found an abscess cavity containing masses of actinomyces. Apparently the germ had lodged in a tonsillar crypt. The boy developed no secondary growths. Rüge in 1896, in a paper entitled "Ueber Actinomyces-ähnliche Gebilde," etc., reported that he had found actinomyces in four out of twenty-five cases, examined microscopically, and suggested that the systematic examination of excised tonsils would reveal it more frequently. Rüge seemed somewhat doubtful as to whether the cases were true actinomyces.

EDMUND CAUTLEY.

**Congenital hypertrophic stenosis of the pylorus; pyloroplasty; result** (*'Brit. Med. Journ.,' 1904, vol. I, p. 1483*).—**McCaw and Campbell** report another case of this interesting affection in a male infant. He was

healthy and well developed at birth, breast fed, and began to vomit about two weeks after birth. At one month of age he did not weigh so much as when he was born. The bowels acted twice daily, the stools being small and containing a few curds. He had been fed on condensed milk for two weeks. On a mixture of cream and whey he improved during the next fortnight, and then the symptoms became more definite. The intervals between the vomiting attacks were much longer, and the amount brought up was much greater. Dilatation and peristalsis were noted a week later, but the pylorus could not be felt. Under careful nursing and feeding he gained a pound in weight. Eventually the obstruction became more complete and pyloroplasty was performed, the child being extremely weak and emaciated. Vomiting persisted, and death resulted on the sixth day. Post-mortem, the pylorus admitted the passage of a cedar-wood pencil, but the redundant mucous membrane obstructed the orifice. Probably a good result would have been obtained if the parents had consented earlier to an operation. The authors lay much stress on the redundant mucous membrane blocking the orifice. This I have already called attention to, pointing out that it may be thrown into several folds or into one large fold, standing out as conspicuously as the verumontanum in the prostate. I do not agree with them that there is any true hypertrophy of the mucous membrane.

EDMUND CAUTLEY.

**Congenital hypertrophic stenosis of the pylorus** (*The Bristol Medico-Chirurg. Journ.*, June, 1904).—**Theodore Fisher and Newman Neild.** The child was eight weeks old when first seen, and the symptoms had apparently dated from three weeks after birth. The child died in the twelfth week of life from emaciation; no operation was possible on account of the weak condition of the infant when it came under treatment. The capacity of the stomach after death was fourteen ounces; the pylorus showed very marked hypertrophy. Some excellent photographs of the condition of the abdomen showing the peristaltic waves were given in the article and should be referred to.

P. LOCKHART MUMMERY.

**The surgical treatment of chronic and acute nephritis** (*The Montreal Medical Journal*, May, 1904).—**A. Primrose** has been one of the pioneers in the surgical treatment of renal disease, and in this paper he describes his cases in detail and gives his conclusions. His first patient was a boy of ten years, suffering from chronic nephritis with oliguria, albuminuria, and much oedema. The first operation consisted in making an incision two inches long in the capsule of the right kidney. Temporary improvement followed, and a month later he operated on the left kidney, removing the capsule in its entirety. Notwithstanding an attack of acute pneumonia the boy steadily improved, the oedema passed off entirely, the albumen and casts diminished, and the boy gained weight (20 lbs.) He was discharged from the hospital nine months after the last operation in excellent general health, the urine being practically normal, and continued well without any treatment for the following twelve months. He was then re-admitted to hospital with an acute attack of nephritis, which yielded readily to medical treatment. Ten weeks subsequently another acute exacerbation took place, and further operative interference was attempted for his relief. The operation of decapsulation was performed on the kidney, which previously had simply been incised, but the benefit on this occasion was doubtful, as relapses followed. These relapses, according to the author, were traceable to errors of diet. As long as the patient was kept on a diet of milk, cream, and



farinaceous food he remained free from trouble, but whenever he was placed on full diet he developed serious symptoms. This brings the history of the case up to the time at which the paper was written. His next case was a boy aged eight years, whose illness had commenced with puffiness of the face and general anasarca a month before admission and five months after an attack of diphtheria. Medical measures were adopted and failed to effect any improvement in his condition, which a month later was considered critical. He was passing on an average seven ounces of urine daily, of a specific gravity of 1030, with 1·3 per cent. of albumen, and containing fatty and granular casts. The capsule of the right kidney was completely removed. At the time of the operation the kidney was found to be slightly enlarged and pale, the capsule stripped off without tearing the costea, and there was no marked tension. His condition was not improved after the operation, convulsions set in, and death followed from uræmia. Dr. Primrose is inclined to ascribe the fatal result to the use of calomel, which was largely used as a purgative during the patient's stay in the hospital, and which he thinks ought to be interdicted in all cases of nephritis. Another practical point on which he lays stress is that ether should never be used as the anæsthetic in operations on the kidneys because of its irritating effects, and he recommends chloroform as safer in all such cases. Other operative cases are described, and then the author proceeds to give the results of his experimental work on dogs. He finds that in dogs a delicate new membrane may be found covering the kidney within twenty-four hours after decapsulation. The explanation of this is that the capsule is formed of two layers, of which only the outer one comes away, while the inner one remains and becomes thickened from inflammatory exudation. At the end of two months it is thicker than the original capsule, while at the end of three and a half months it is differentiated into two layers again. The various views held as to beneficial results obtained from surgical interference in nephritis are discussed, and the author's conclusions are as follows: "I am not one of those who advocate decapsulation of the kidney as a measure to be adopted indiscriminately in Bright's disease. We cannot, however, close our eyes to the fact that a very remarkable effect can be produced by operative interference in such cases. I am of opinion that we shall sooner or later arrive at the conclusion that in a certain class of cases relief is to be expected from surgical interference. The limitations of the operation are far from being set at present, but I consider the attitude of the individual who stigmatises the operation as useless is just as unreasonable as that of the individual who advocates operation as a curative agent in all cases."

G. A. SUTHERLAND.

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## Preparation.

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**Neave's Food** has long been before the public, and has an established reputation. Analysis shows that the albuminoids are 14·7 per cent., the carbohydrates 75·5 per cent., the remaining constituents being composed of cellulose and moisture, with mineral salts containing phosphates to the extent of 1·2 per cent. When the appropriate period has arrived for the addition of cereals to the infantile dietary, Neave's Food may be used as it is a carefully prepared combination of excellent quality.